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Work values and their relationship to certain personality types of community college students

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WORK VALUES AND THEIR RELATIONSHIP TO CERTAIN PERSONALITY TYPES OF COMMUNITY COLLEGE STUDENTS

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APPROVAL SHEET

We the undersigned do certify that we have read this dissertation and that in our individual opinions it is acceptable in both scope and quality as a dissertation for the degree of Doctor of Education.

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ABSTRACT

WORK VALUES AND THEIR RELATIONSHIP TO CERTAIN PERSONALITY TYPES OF COMMUNITY COLLEGE STUDENTS

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Values, those related to work, have served, in part, to explain the nature of individuals and their behavior and to provide life style and goal orientations. Understanding the work value system of the student in the context of his personality composition and his educational and vocational goals is important to the counselor trying to assist in goal clarification and in analyzing the psychological appropriateness of a given typology for employment or training. Knowing the work values which motivate an individual, and having information concerning these values which are most readily realized in various work and occupational settings and roles, the counselor may have the assistance of an important basis for career counseling and decision making.

The primary emphasis of the study was an analysis of work values and their relationship to different personality/occupational typologies. Super's Work Values Inventory was used to provide the measurement of work values that are functional within the personality typologies of Holland's Theory of Vocational Choice. Specifically three major areas were studied:

1. What is the general relationship of work values to different occupational orientations as they relate to personalities of community college students?

2. Does a significant difference exist with reference to discriminated work values in relationship to the degree of congruency present in the personality typologies of community college students?

3. Does a significant difference exist with reference to discriminated work values in relationship to the degree of consistency present in the personality types of community college students?

Subjects for the study were 451 randomly selected students enrolled during the Winter Quarter, 1976 at Thomas Nelson Community College in Hampton, Virginia. All subjects were administered the WVI, Holland's Vocational Preference Inventory and a questionnaire concerned with demographic and curricula factors. Scores from the VPI were analyzed by High Point Code to determine basic typology, and level of consistency. High Point Codes and curricula choice were analyzed to determine level of congruency.

Two methods of analysis were used to answer the research questions. Discriminant analysis was used for the first research question and analysis of variance was used for the second and third research question. The .05 level of significance was used for all procedures.

The first hypothesis was tested with discriminant analysis by comparing the six typologies of Holland. The following discriminated

values were identified for each type:

1. Realistic (n = 80) Positive Values: Creativity, Esthetics and Associates. Negative Values: Security, Intellectual Stimulation, Prestige and Management.

2. Investigative (n = 87) Negative Values: Way of Life and Economic Return.

3. Social (n = 91) Positive Value: Esthetics. Negative Values: Way of Life and Security.

4. Conventional (n = 67) Positive Values: Security and Esthetics. Negative Values: Economic Return.

5. Enterprising (n = 49) Positive Values: Way of Life, Economic Return, and Management. Negative Value: Esthetic.

6. Artistic (n = 77) Positive Values: Esthetic, Creativity and Altruism. Negative Values: Surroundings and Economic Return.

All discriminated values were significant at greater than the .001 level.

The second hypothesis was tested using analysis of variance between the two levels of congruency and the discriminated work values from the first hypothesis. The only significant values were Prestige in the Realistic Group and Esthetics in the Artistic Group.

The third hypothesis also used analysis of variance and it too was rejected as only the value of Intellectual Stimulation in the Realistic Group was significant.

The findings suggest that certain work values are discriminant of different personality typologies for this sample group. The findings also indicate very little difference exists between levels of consistency and congruency as they relate to the specific discriminated work values of this study. Further investigation is warranted to confirm the discrimination power of work values and personality typologies and their relationship to the theoretical constructs of Holland's theory.

Dedication

This dissertation is dedicated to my wife Irene and my son Greg whose support and sacrifices helped make this endeavor possible.

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Chapter 1

Introduction

Values have charted man's course in the past and are charting it today. Values have served, in part, to explain the nature of man and his behavior and have made, and will continue to make him orientated towards selected life styles and goals. The concept of values has long been inherent to the behavior of man since man's first decision was made. Values, by being inherent to man, are the determiners within him that influence his chances in life and thus decide his behavior. Values may be considered to be the internal axis which orients individuals on a long-range basis to certain goals in preference to others. As Hollander (1967, p. 969) states: "Values have substantial directive force in human experience. Men die for values . . ."

Values have been difficult to define and to place in useable context, however they have been seen to be determinants of perceptions and behavior. Each person has certain primary motivations or dominant values around which his self system is organized. It is through the process of internal consistency that overt expressions of behavioral consistencies are expressed and these expressed values in turn lead to commonality of groups of behaviors. Branden (1969, p. 183) has stated that "man obviously finds it to his interest to deal with

men whose value and character are like his own rather than with men of mimical values and character."

When a person's values are known it often becomes possible to predict how he may behave in given situations. Values however, are not clearly and precisely stated by the individual. Values differ greatly in the degree of clarity with which they are perceived. Some values are quite crystallized while others will be vaguely differentiated that individuals may be unable to report them. Values will affect the perceptions of particular individuals depending on the assigned strength of the value.

Values exert pressure towards behavior by their efforts on one's perceptions. Combs and Snygg (1959) cite that the "peculiar patterns imposed upon perceptions by values produces much of the uniqueness of behavior we have come to describe as the individual's personality." The patterns can also operate in cultural or social group orientations. The values of a culture, a country, or a society may have several sub-groups of values operating, down to and including the family.

There have generally been two general groups of values: Those concerned with "life" and those concerned with "work." Those of life orientation are not the general concern of this study, but those of work are indeed the heart of it. The term which designates a work value generally is descriptive of the internal state of the person (needs), or the kind of reward or satisfaction available to that internal

need in regards to one's life work. Work has been the methodology for survival. It has been, only recently, that man has had freedom to explore and engage in work behavior satisfying to himself which will also meet the basic needs of life.

Contemporary Perspective

As technology enhances and provides greater support to basic needs, man in his increased selection process has often used training or education as a means of entering the workforce. In our contemporary society one of the most rapidly expanding educational institutions has been the community college. Chapter 2 will present research which indicates that the students of these institutions are generally considered to be primarily work orientated and practical with relatively short range educational preparatory goals. Thus the work values of these individuals would be prime motivators in their educational and vocational progress. Although many people are concerned about the work values of community college students, very little has been done to define and investigate the nature of this value system. Meyerson (1971, p. 19) has stated: "Life in America has, perhaps, been more influenced by the idea of work and its value than by any other aspect of the national character."

The work of Herzberg, Mausner and Snyderman (1959) and Vroom (1964) delineate some aspects of the increasing emphasis towards job satisfaction. The evergrowing dissatisfaction of the worker

in America's industry continues to point out the change in attitudes toward work. The evidence of these changes of attitudes have been reflected in rising absenteeism, tardiness, disciplinary problems, strikes, and even sabotage (Kremen, 1972, pp. 22-23).

Today, work fulfillment usually means individual or personality completion or self-actualization. A shift of work as a means of living rather than a means to live is occurring, in the work force and, in educational institutions. Kluckhohn, (1956), states: "They (students), reject the earlier activity - orientation of our culture, denying that work is intrinsically virtuous, or that material goods are worthy ends as means. They reject competition as a primary basis for human relationships (p. 27)."

The relationship of work values to this shift is important to the individual. The basic choice between vocation, occupation, employment and non-work is essentially a choice between arrays of values, or value systems. Katz (1963) identifies values in this sense as characteristic expressions and culturally influenced manifestations of needs. The Sixth Report of the National Advisory Council on Vocational Education, Counseling and guidance: A call for change, 1972, states: "Society has told youth that they should want to work and should endorse the work ethic. But the work values of young people in the post industrial society are not, and should not be, the same as their parents."

Exploration and examination of individual value systems are early steps in the basic choice between vocation, occupation and employment. The following is a very apt description of the need to deal with the value system. Charles Collins, writing in O'Banion and Thurston (eds.), Student Development Programs in the Community Junior College (1972) speaks directly to counselor responsibility.

> Sixty-three percent of junior college students work while attending college. Since it is among the functions of student personnel to interpret the college to the student and to help the student explore the effect of his value system on his behavior, this whole problem falls directly into the laps of various student personnel workers, particularly the counselors . . . . There is need to take counseling, particularly the value analysis involved in vocational counseling, to the student (p. 15).

Understanding the value structure of the student in the context of his personality composition and his educational and vocational goals is definitely important as an aid to the counselor in clarifying these goals and determining the psychological appropriateness of a given type for employment or training. Knowing the values which motivate an individual, and having information concerning the values which are most readily realized in various work and occupation settings and roles, the counselor has an important basis for career counseling or for decision making.

Statement of the Problem

As evidenced in the research, the individual orientates himself to a particular work group or style which compliments and enhances his personality (Holland, 1966, 1973). The purpose of this study will then be to investigate the work value orientation of these groups which are present in the two-year college. A knowledge of work value orientation, its composition, its congruency and its consistency are the primary targets of this proposed study.

Gable & Pruzek (1971) epitomize concisely the necessity and intent of the proposed investigation.

> The problem of choosing at a relatively early time in life one's appropriate vocation must be regarded as among the most serious and yet difficult problems which any person faces . . . . We believe that in the future one of the most fruitful approaches to vocational decisions lies in the area of the measurement of values. To be able to give reliable and meaningful information to students, for example, regarding their own patterns of work values, seems to us essential for enlightened vocational decisions (p. 41).

Specifically the statement of the problem of this study will be to investigate the following questions:

1. What is the general relationship of work values to different occupational orientations as they relate to personalities of community college students?

2. Does a significant difference exist with reference to work values in relation to the degree of congruency present in the personality types of community college students?

3. Does a significant difference exist with reference to work values in relation to the degree of consistency present in the personality types of community college students?

Hypotheses

For the purpose of the research, the following hypotheses were made:

1. There will be a significant difference in work value orientation between selected personality types as identified by mean work value scores and High Point Codes (HPC) (personality type groupings). Specifically it is hypothesized on an a priori basis that the following major values will be significantly different for each of the six personality types:

(a) Realistic: Achievement, Economic Return, Security and Independence

(b) Investigative: Intellectual Stimulation, Creativity, Achievement and Prestige

(c) Social: Altruism, Achievement and Surroundings

(d) Conventional: Security, Economic Return and Surroundings

(e) Enterprising: Prestige, Economic Return, Way of Life and Altruism

(f) Artistic: Creativity, Esthetic, Independence and Surroundings.

2. There will be significant differences between discriminated mean work value scores and subjects identified as being congruent or incongruent in their relationship between High Point Code (personality type) and chosen curriculum.

3. There will be significant differences between discriminated mean work value scores and high, middle and low levels of consistency as identified by personality typology coding.

The delineated hypotheses are designed to broaden the theoretical knowledge of work values and increase the very limited research of work values in the community college, thus providing specific relationships between these values and individual personality orientations. Knowledge of this relationship should materially assist community college counselors in their counseling relationship with clients.

Theoretical Framework

The basic theoretical origins of this study come directly from specific theories of vocational choices (Ginzberg, Ginsberg, Axelrad & Herma, 1951; Super, 1949, 1953, 1957; Super et al, 1963; and Holland, 1957, 1966, 1973) which relate to the concept of work values.

Ginzberg

The first approach to a developmental theory of vocational choice was by Ginzberg et al, (1951). This theory, concerning the relationship of abilities, interests and values in vocational development

during adolescent years, has four significant variables involved in vocational choice. The first, reality, causes an individual to respond to the pressures of his environment in making vocational decisions. Then the influence of the educational process is next since the amount and kind of education will limit or facilitate the types of vocational choices made. Third, emotional factors are important as emotional and personality factors have vocational concomitants. Finally, "individual values" were deemed to be important since they influence the quality of the choice made, by virtue of the differing values inherent in various careers.

The developmental aspect of the theory divides vocational choice into three major periods (a) Fantasy, (b) Tentative, and (c) Realistic. The Tentative period has four substages: (a) Interest, (b) Capacity, (c) Value, and (d) Transition. It is the Value Stage (ages 15-17 years) that students undergo a marked change in their approach to vocational choice. They seem more aware that work offers more than the potential for satisfying their own needs and clearer conceptions of differing life styles offered by occupations also begin to emerge. Two significant developments also take place during the Value Stage. First, a beginning development of the concept of career in terms of a life pattern and secondly, a sensitivity to the imminence of vocational commitment.

Ginzberg states (1951, p. 84) that individuals use their value

systems as "an ultimate principle in ordering the multiple factors that they must consider." He has classified values into three types: (a) related to the work activity itself, (intrinsic), (b) related to the return of work, as exemplified by pay and the way of life a job permits, (extrinsic), or (c) related to the concomitants of work; what is associated with the job, such as co-workers or supervisors (concomitant). Ginzberg further comments that:

> The connection between occupational choice process and work satisfaction is not contained in the specific decision which the individual reaches, but in how he clarifies the goals and values which are associated with the satisfaction he seeks in work. This clarification is an essential part of his occupational decision-making, for he cannot make a choice without determining, at least, preliminarily, what he wants to get out of work (p. 84).

Super

Values may also be considered to be a core component of the self-concept. Super (1953) has proposed a theory that vocational choice is a compromise process of developing and implementing the self-concept. Super's theory seems to have had three bases: (a) that of self-concept theory (Rogers, 1942), (b) that of developmental psychology (Buehler, 1933) and (c) that of Ginzberg's (1951) attempts at theorizing. Super was moved, by his own admission, into his first formal theoretical statements by the attempts of Ginzberg.

The theory centers about the concept that when a person expresses a vocational choice he puts into occupational terms the idea of the kind of person that he is. An occupation makes it possible for a person to play a role that is appropriate to the picture he has of himself. Super (1957, p. 9) cites that "self-expression is more a matter of role and values than of outlets for specific types of interests or abilities."

Values, to Super, closely resemble interest, however they seem to represent something more basic than interests. They permeate all aspects of life, they concern life's goals, and in some instances, seem closely related to needs and drives. The goals the individual sets for himself, the things in life that are important to him, begin to influence him and to affect the choices indicated by his abilities and interests. In developing concepts of career development, Super (1957) proposed the idea of work values and to that end developed a Work Values Inventory (WVI) designed to reflect a preference variable in vocational choice somewhat different from and perhaps more general than the concept of interests. Or as Darley and Hagenah (1955) view it; personality, i.e., values, needs, and motivations, lead to the development of interests which in turn lead to occupational choice.

In developing the WVI for his Career Pattern Study, Super (1962) devised a value formulation similar to that theorized by Ginzburg

(1951). The arrangement of the work values are as follows and a description of the values is provided in Appendix A:

Intrinsic Values: (a) altruism, (b) creativity, (c) independence, (d) intellectual stimulation, (e) esthetics, (f) achievement and (g) management.

Extrinsic Values-Rewards: (h) way of life, (i) security, (j) prestige, and (k) economic return.

Extrinsic Values-Concomitants: (l) surroundings, (m) associates, (n) supervisory relations and (o) variety.

Super in his book The Psychology of Careers (1957) discusses values as they relate to certain types of individuals although he does not identify any types specifically. He theorizes that people with certain attitudes are more likely to be attracted to certain kinds of work than to others; those that have certain values are likely to see more opportunity to achieve them in some fields of work than in others. "It seems self-evident that the person interested primarily in the welfare of his fellowmen is likely to find outlets for these values in social work than in setting bonds (p. 29)."

In concluding Super's theoretical position it is important to note three propositions made in Vocational Development: A Framework for Research (Super et al, 1957, pp. 93-94): the first proposition states: "The occupational field which the individual enters is related to his interests and values . . ." The second proposition states:

"Although each occupation requires a characteristic pattern of interests, abilities and personality traits, the tolerances are wide enough to allow both some variety of individuals in each occupation and some diversity of occupations for each individual." The last proposition is: "The degree of satisfaction the individual attains from his work is related to the degree to which he has been able to implement his self-concept in his work." According to Super (1963) self-concept formation requires a person to recognize himself as a distinctive individual, yet at the same time to be aware of the similarities between himself and others.

It is this characteristic and the specific integration of values and personality traits by Super that lead to the last section of theory base - that of John Holland.

Holland

John Holland's theory is an elaboration of the hypothesis that career choices represent an extension of personality and an attempt to implement broad personal behavioral styles into the context of one's life work. This theory, originally formulated in 1959, was modified as a result of Holland's own research in testing his theory (1962, 1966).

The developmental hierarchy is represented by the individual's adjustment to six occupational environments. Everyone is required to adjust to each of the environments and develop certain skills with

reference to the setting. The six types of adjustment (personality types with the same names as the environments) represent major life styles and patterns of relationships between the individual and his world. The most typical way an individual responds to his environment is, of course, his modal personal orientation.

Holland (1966) states that the personality and environment types are analogous to the types proposed earlier by Spranger (1928, Types of Men) and more specifically the six major factors identified in Guilford's (1954) comprehensive factor analysis of human interest. The current designation of the types and environments of Holland are as follows: (a) Realistic, (b) Investigative, (c) Social, (d) Conventional, (e) Enterprising, and (f) Artistic. Holland (1965) has developed an instrument, the Vocational Preference Inventory (VPI), which has the ability to identify and differentiate between his typologies. A detailed description of the types may be found in Appendix B.

The background principles of Holland's theory (Holland, 1973, pp. 6-10) are listed below:

1. The choice of a vocation is an expression of personality.

2. Interest inventories are personality inventories.

3. Vocational stereotypes have reliable and important psychological and sociological meanings.

4. Because people in a vocational group have similar personalities, they will respond to many situations and problems in similar

ways, and they will create characteristic, inter-personal environments.

5. Vocational satisfaction, stability, and achievement depend on the congruence between one's personality and the environment (composed largely of other people) in which one works.

Holland's theory also considers the principle that "people search for environments that will let them exercise their skills and abilities, express their attitudes and values, and take on agreeable problems and roles (1973, p. 4)." This is consistent with Super's theory that occupations require a characteristic pattern of interest abilities and personality traits.

A final operational principle is that "a person's behavior is determined by an interaction between his personality and the characteristics of the environment (1973, p. 4)." If a person's personality pattern and the pattern of his environment are known, a general forecast can be made of some of the outcomes of such a pairing. These could include choice of vocation, job changes, vocational achievement, personal competencies and educational and social behavior.

Two other theoretical concepts of Holland's that are relevant to this study need to be discussed. These concepts, basic to the interrelationship of the personality types and environments, are "congruency" and "consistency."

Congruency - Different types of people require different environments and a person's relationship to his environment can be assessed according to the degree of congruence or compatability. This assessment is defined by a hexagonal model of relationships, (See Appendix C). For example the most extreme degree of congruence would be the same personality type in the same environment, i.e., a realistic person in a realistic environment (Holland, 1973, p. 37).

Consistency - Within a person or an environment, some pairs of types are more closely related than others. The outcomes of this interaction are influenced by the consistency of a person's personality pattern and the consistency of the environmental patterns. Three levels of consistency have been cited: high, middle and low (Holland, 1973, p. 38). For the person, a more consistent personality pattern represents an integration of similar interests, competencies, values, traits and perceptions.

Holland does not explicitly discuss the manner in which his typology orientation develops. Presumably the development of the styles corresponds with other theorists' notion of personality development. He does not attempt to identify the value orientations of the personality types; however, Super has theorized and identified work values; has stated they exist in personality types, but has not theorized the types. The present investigation will seek to answer part of the personality orientation question: that of the role of values in

personality as it relates to identified typologies. Additionally, the results of such an investigation will help the counselor in dealing with students of various personality orientations as it relates to career counseling and decision making.

Summary

If one accepts the theoretical positions, of Super and Holland, one would have to accept the assumption that values have substantial directing force in vocational decision-making. Given the strength that values have in determining human goal direction and theories that man's vocational decisions are in some way an extension of the self, it may well be hypothesized that individuals who are of certain personality dispositions will have similar work values and will be different from those individuals in other personality types. The existence of such a unique hierarchy of work values related to personality disposition or orientation would have significant implications for career counseling and decision-making.

Definition of Terms

Community College

A comprehensive institution of higher education which provides occupational-technical and traditional transfer curricula awarding associate degrees and certificates as well as credit and non-credit courses for those not seeking degrees and certificates.

Congruency

Congruence is the degree of, or goodness of fit, of a person's relationship to his environment. It is operationally defined by the relationship of a subject's HPC to the other five personality types according to a hexagonal correlational relationship (Holland et al, 1969). The relationship is defined for this study as the congruency or incongruency between HPCs and chosen curriculum or major area of study.

Consistency

Consistency is defined as degree of uniformity of an individual's personality pattern and the environmental pattern. The greater the consistency, the greater the integration of similar values, traits, interests, competencies and perceptions. Consistency is operationally defined as an occupational code combination that is identified as having a high, middle or low level of relationship as described by Holland (1973, p. 22). For this study subject's occupational codes will be compared to Holland's levels to determine levels of consistency.

High Point Code (HPC)

The high point code is simply the personality type as measured by the VPI that has the highest score value.

Occupational Codes

The occupational codes are the combination patterns of the six personality type scales arranged in order of strength from high to low. Operationally the codes consist of the top three scores arranged in descending order. The codes are simply the first letter of each of the personality types.

Personality Type

A personality type as described by Holland (1973) is a characteristic disposition of values, interests, competencies and preferred activities that is predisposed to exhibit characteristic behavior and to develop characteristic traits. Six specific personality types have been identified originally by Holland's theory (1958, 1959). The current titles (Holland, 1973) are: Realistic, Investigative, Social, Conventional, Enterprising and Artistic and are operationally defined as the first six scales of the VPI (1965).

Values

Values are defined as qualities that are regarded as intrinsically desirable and as desirable ends or means to ends. Thus a value is something that one prizes, cherishes, esteems; something he expresses in consistent behavior; it is learned and is an ingrained portion of the personality make-up.

Work

Work may be viewed as a means of self-actualization, as a way of finding a life role or as a means of implementing one's self-concept. It may also be simply defined as any conscious effort, paid or unpaid, that is aimed at producing benefits for oneself and/or oneself and others (Hoyt, 1974).

Work Values

Work values then are those qualities that have motivation powers in implementing the work orientation of an individual and reflects the correspondence between need states and satisfaction. Zytowski (1970, p. 176) has defined work values as a set of concepts which mediate between an individual's affective orientation and classes of external objects offering similar satisfaction. Work values are operationally defined as the fifteen scales on Super's WVI (1970).

Plan of Presentation

This investigation has been organized into five successive parts identified by major headings as chapters. The present chapter has provided an introduction to the investigation and has identified the area of study in addition to the investigative questions under consideration. It also provided the theoretical framework for the study, has defined terms and has identified the instruments to be used for measurement of data. The following four chapters will be presented

as follows: (a) Chapter 2; will present a review of related literature, (b) Chapter 3; will discuss research methodology, (c) Chapter 4; will present results, and (d) Chapter 5 will include summary, conclusions and recommendations.

Chapter 2

Review of the Literature

This chapter contains a review of the literature pertaining to:

a. definition and origin of values

b. the structure of values

c. measurement of work values by the WVI

d. work values of pre-secondary students

e. work values of post-secondary students

f. research relevant to the VPI

g. summary

Definition and Origin of Values

In vocational behavior, motivation is frequently expressed in terms of occupational or vocational interests. Work values has recently emerged as a more specific type of motivation. While no generally acceptable definition of work values is available some qualities are identifiable. The object of valuing incorporates several objects into a general class or goal and is identified by the attribute which the several objects have in common.

Rand (1964, p. 5) has described value as "that which one acts to gain and/or keep." It becomes that which one regards as conducive to one's welfare. A value is the object of an action. Rose, writing in Sociology and the Study of Values (1956) assumes a definition of value:

> As an attitude held by an individual or group toward an object - material or non-material, real or imaginary - such that the object is esteemed, as something worthy of choice, so that in relation to the behavior of those who hold it the value has a "should or ought" quality (p. 5).

Underhill (1966, p. 163) prefers to see occupational values ". . . conceived as the rewards and satisfactions, tangible and intangible, which a person hopes to derive from his work." Zytowski (1970, p. 176) has defined work values as a "set of concepts which mediate between the person's affective orientation and classes of external objects offering similar satisfactions." This is a more comprehensive definition of values than Allport's (1955, p. 2) who said briefly: "Values are the termini of our intentions."

In citing values defined as qualities which are regarded as intrinsically desirable and as desirable ends or means to ends, Super (1970, p. 4) believes them to be "qualities which people desire and which they seek in the activities in which they engage, in the situations in which they live and in the objects which they make or acquire."

From any perspective, values, specifically work values are important because they lead to motives and hence to choice of activity. These choices, or occupations may be directly or indirectly related. A value such as altruism can be reflected in many types of occupational groups but would be predominant or more direct in the social

orientated fields.

Further, occupations are likely to appear which do not presently exist, or persons may find themselves seeking new occupations because their present one has become obsolete. If such a person knows his work values and their relative strengths, and other occupations are understood in terms of their need satisfaction potential, the required transition could be considerably easier.

The origins of values is clouded in history as the definitions of values place their impact upon the individual rather than a time or event. Early psychological studies of values were limited and scattered in efforts to coordinate a theoretical position. Dukes (1955) did identify 211 studies of some aspects of the problems, however these efforts were widely scattered and had no general directions or conclusions as to the value operations of the individual.

One of the earliest cogent general formulations of the role of values comes from William James (1890) who concludes "that human values and aspirations have an essential role in determining whether we regard ourselves favorably." He underscores the importance of one's own values in determining which areas will be employed in self-judgement.

Both Roe (1956) and Rosenberg (1957) have hypothesized on the origins of values. Rosenberg states that values may be derived from needs, which he identifies as deficient states. Values may be the result of process in removing the deficit. Roe refers specifically to

needs, which she feels determines interests, attitudes, and other personality variables. These needs are ordered and may be delayed in gratification by more basic needs.

These broad conceptions of the origin of value systems may reflect conflicting observations of persons' value systems. Similarities in the general clustering of values is seen among persons of the same socio-economic level, the same sex, or of similar ages supporting the socialization concept. At the same time observation of the preeminence of a given value orientation, which would be atypical for a person with certain of the attributes already mentioned, demands an explanation such as Roe offers.

Coopersmith (1967, p. 244) supports Rosenberg's contention by stating that while individuals are theoretically free to select their values, the years spent in home, school and peer groups generally lead to acceptance of group standards and values. While these lead to principal bases for value orientation there is still additional relief and gratification obtained by employing different or modified orientations specifically suited to the individual.

The values a person holds are believed to be the products of his upbringing, his environment, his education and a host of other variables (Hershenson, 1968). For example, although there are distinctive differences in the occupational value structure of parents and their off-spring, there is greater similarity between values of daughter and

mother than between those of father and son (Wagman, 1965).

Perrone (1965) found that more intelligent, higher achieving and problem-free 7th and 8th grade girls thought it was more important to pursue a goal which offered intrinsic satisfactions. This would suggest some interaction between the value system and ability, which would contribute to the theory that values emerge from the differences in reinforcement which they receive. He also found that there are certain needs which mothers and daughters can agree upon as important and unimportant: good income and security as important; being helpful, working with things, and being free from supervision as less important.

A values questionnaire similar to Rosenberg's (1957) was constructed by Scharzweller (1959, 1960) to study the influence of values on vocational choice. He found that occupational value orientations are essentially learned in the socialization process and are determined by certain socio-cultural factors. Centers (1948), McArthur (1955), Rosenberg (1957), and Wilson (1959), found significant differences in attitudes towards college students from upper and middle class homes. Jurgenson (1947) found that certain values were associated with the extent of education, but Miller (1954) found no association of pre-eminent values with age.

Other studies have shown inconsistent or conflicting findings. Hana (1954) found significant difference between age groups (9th and

12th grade boys) in their consistency to select values. Thomas (1974) in working with 9th grade students found value differences for both age and sex. Tierney and Herman (1973), however, found no significant differences in age, sex, IQ, socio-economic level or grade on self-estimates of values on 1300 high school subjects.

Searle (1962) using the Vocational Value Inventory discovered that males and females tended to covary over time and therefore values failed to make a significant difference between them. Wagman (1965) using Centers' (1949) Job Values and Desires Questionnaire found significant differences for both sex and age in his study. Kinnane & Pable (1962) and Paine, Deutsch and Smith (1967) all found significant differences in value orientation among family variables.

Structure of Values

The structure of values has several formats. Tisdale (1961) in a dissertation outlined five broad clusters or categories of values. They are:

a. Group 1, defines values as needs or need satisfactions

b. Group 2, while granting the biological basis of values, prefers to stress their motivational nature as predispositions operating prior to behavior

c. Group 3, states that values arise only when problem situation demands behavioral choice

d. Group 4, virtually ignores the organism and its behavior by equating values with intellectually held concepts or beliefs

e. Group 5, sees values as different kinds of situational relationships.

It is Group 2 which provides the support of values as a motivator to behavior. Values tend to provide operational direction.

Fryer (1931) presented an update of literature for the preceding ten years and focused particularly on a discussion of "intrinsic" versus "extrinsic" interests as those factors which workers sought on the job and were dissatisfied within their work. "It is possible", he says, "that one's vocational interests (i.e. values) are more usually the factors surrounding the job-personnel relations, prestige, recognition of accomplishment, and so on. The satisfaction of the worker is the total satisfaction of his life (p. 54)."

By use of public opinion survey techniques, Centers (1949) studied three aspects of people's wants in a sample of approximately 1100 men: satisfactions and dissatisfactions in their present work; aspirations for their own futures; generalized goals and values in life. Among other questions, his subjects were presented with ten generalized values which might be obtained in one's work. The subjects were to choose three of these ten. Independence, self-expression, security, a chance to serve others, and interesting works were the five most frequently chosen values.

It has been frequently suggested that values may be classified as intrinsic or extrinsic, as those which are inherent in and derived from the activity or object iself, or as those which are the outcome of having the object or participating in the activity. Ginzberg et al (1951) appear to be the first to trichotomize work values into the following types: intrinsic (pleasure in the activity and in the accomplishment of specific ends); extrinsic (monetary and prestige awards); and concomitant (social and environmental satisfactions).

Schwarzweller (1960) finds support in his analysis for this but adds a fourth cluster for females relating to the homemaking role. Darley and Hagenah (1955, pp. 138-139) made use of the intrinsic-extrinsic dichotomy, borrowing heavily from earlier writing by Fryer (1931). Rosenberg (1957) and Davis (1965) have also used the Ginzberg categories. Rosenberg (pp. 13-16) identified three value complexes in his study of the values of college students: the self-expressive (intrinsic), people, and the extrinsic reward (money-security) types of values, and relates them to occupational goals and vocational choice. Super (1957, pp. 299-300) has made use of Ginzberg's classification in his treatment of vocational adjustment and in the development of an inventory (WVI) designed to assess values sought in work.

When individual values are combined into these or the intrinsic-extrinsic dichotomy, certain associations with socio-economic factors

appear. Kinnane and Pable (1962) found that subjects' intrinsic-extrinsic predominance was related positively to college attendance. Centers and Bugental (1966) found that high status occupations are predominant in intrinsic orientation and low level in extrinsic. Buchanan (1974) in a study of Caucasian and Afro-American nursing students found that Afro-American subjects placed significantly greater importance on extrinsic value than on intrinsic value, while Caucasian nursing students placed significantly greater importance on intrinsic value than of extrinsic value.

Super (1962) conducted a factor analysis of 15 work values from his WVI and found ten identifiable factors. O'Conner and Kinnane's (1961) factor analysis of the WVI yielded six factors. These factors were derived from Super's classification of his work values which are organized in the following trichotomy:

a. Intrinsic: altruism, creativity, independence, intellectual stimulation, esthetics, achievement, management.

b. Extrinsic Rewards: way of life, security, prestige, economic returns.

c. Extrinsic Concomitants: surroundings, associates, supervisory relations and variety.

The factors of Herzberg (1959) were subjected to factor analysis by Friedlander (1963) and yielded three components: a. social environment, b. task-centered opportunities for self-actualization, and

c. recognition through advancement. These components closely resemble Ginzberg's clustering. Hendrix and Super (1968) found dimensions in the WVI similar to the intrinsic-extrinsic clusters plus self-expression and autonomy factors for boys. For girls, only the first three factors were obtained reliably.

Measurement of Work Values

There have been several inventories of work values constructed for prediction and counseling rather than to test hypothesis concerning work behavior: Hammond's Occupational Attitude Rating Scale (1954), Stefflre's Vocational Values Inventory (in Center's, 1949), Super's Work Values Inventory (1960), the Minnesota Importance Questionnaire (Weiss et al, 1964), and the Ohio Work Values Inventory (Fenner, 1972). Super's work is the prime instrument for this study as it is an extension of his theory and provides the basic trichotomy of values.

Super originally developed the Work Values Inventory (WVI) in conjunction with the Career Pattern Study (1960). It has been developed over several years using, as a theoretical base, his developmental self-concept theory of vocational behavior and a review of the literature on values, job satisfaction and job morale. The instrument has 45 items and yields scores for the following 15 work values or desired satisfactions that seventh grade through adult men and women seek in their work or as outcomes of their work: (1) Creativity, (2) Management, (3) Achievement, (4) Surroundings, (5) Supervisory Relations,

(6) Way of Life, (7) Security, (8) Associates, (9) Esthetics, (10) Prestige, (11) Independence, (12) Variety, (13) Economic Return, (14) Altruism and (15) Intellectual Stimulation. Test administration is approximately 10-15 minutes. A detailed description of the values is provided in Appendix A.

"The WVI was developed to meet the need for a means of assessing the goals which motivate man to work." (Super, 1970, p. 4). The instrument is designed to measure values which are both intrinsic in and extrinsic to the concept of work. The WVI has had a variety of forms in research. The initial form was a forced-choice comparison of 225 items, however a subsequent modification (Hendrix & Super, 1968) increased reliability and recast the scales into 45 items with 5-point Likert type responses.

Standardization for the instrument was by administration to a national sample (1968) of 10,083 students in grades 7-12 who were fairly equally divided by sex and whose demographic characteristics were national in scope. Reliability coefficients of the instrument range from .74 to .88 with a median of .83. This is based on a two-week, test-retest sample of high school students (n=99).

O'Connor and Kinnane (1961) conducted a factor analysis of the WVI to verify Ginzberg's (1951) three types of work-derived satisfactions. The findings for 191 college males yielded six factors which

appear to stand between Ginzberg's broad categories and Super's discrete scales. The factors are:

Factor A: Security-Economic-Material

Factor B: Social-Artistic

Factor C: Work Conditions and Associates

Factor D: Heuristic-Creative

Factor E: Achievement-Prestige

Factor F: Independence-Variety

New items were written and integrated into the factor scales so that the modified WVI finally consisted of 89 items keying on one of six homogeneous scales. A number of studies, Kinnane and Suziedeles (1962), Kinnane and Pable (1962) and Kinnane and Gaubinger (1963), tend to establish the position of the modified WVI in the nomological set of family variables, interests and personal values.

Kinnane and Bannon (1964) investigated the effects of perceived parental influence on the work values of women measured by a separately factor analyzed version of the WVI using women subjects. They found no overall differences attributable to father or mother's influence, but differences in the value orientation of mother-influenced group did appear in lower socio-economic status families.

Super (1962) used the data from his Career Pattern Study and related the 15 WVI scales to a number of measures of intelligence, interest, adjustment, and achievement. His factor analysis yielded

10 factors, of which four seemed to be purely values, two a combination of interest and values, and the remainder unrelated to value constructs. His results and those of O'Conner and Kinnane (1961) are similar.

Gable and Pruzek (1971) factor analyzed the WVI and found that the item clusters or scales were both reasonable and sufficient to describe the item interrelationships. Ten dimensions were identified which were collapsed by the four dimensions identified by Hendrix and Super's (1968) study. Gable (1973) modified the WVI by an additional 32 new items which were supported by analysis of item groups. That resulted in comparable scale intercorrelations and factorial dimensions. The addition of items had increased the scale internal consistency reliabilities.

Construct validity is shown by correlational studies of the WVI and scales from other instruments such as the Allport-Vernon-Lindzey Study of Values, Strong Vocational Interest Blank and the Kuder Preference Record-Vocational. Several correlations are significantly different from zero and the relationships tend to be conceptually meaningful. Ivey (1963) tested the WVI for correlations with the Kuder Interest Scales and found fewer significant correlations than expected, but he did observe some systematic relationship. He suggested that interests determine the direction of a career, but that values affect satisfaction with a given position.

Information concerning content validity is presented by indicating

that the particular work values were selected for inclusion on a basis of a review of the literature on values, job satisfaction and morale. Spranger's (1928) "ideal types" of men, which are proposed to be measured by the Allport-Vernon-Lindzey Study of Values, served as the main sources for the altruism, esthetics, intellectual stimulation, prestige and economic return value-items. The remaining value items were mainly derived from Hoppock's (1935) and Centers' (1948) research on job satisfaction and job morale. Super also used many interviews with young people to help develop items.

Concurrent validity has been established through several studies concerning the relation of work value orientations to other quantitative and classification variables. A selection of pertinent studies include Hana (1954), Kinnane & Graubinger (1963), Kinnane and Pable (1962), Kinnane and Suziedeles (1962), Super (1962), Woodbury (1966), Pallone et al (1970), and Thomas (1974). These studies tend to establish the position of the WVI in the areas of family variables, interests and personal values.

Evaluations of the inventory include Gable (1971, p. 568) who stated that "It was found that the 45 items had been reasonably grouped in the 15 categories . . . and its theoretical bases and method of development appear respectable." Dave Tideman, writing in Buros' Seventh Mental Measurements Yearbook (1972) stated that:

> The inventory has been around two decades. Hence there is quite a bit of valid data available in the manual . . . Norms on the inventory were quite carefully developed. Although norms are available for only grade 7-12, this may not be a factor against use with college students and adults since the grade differences are in the known range in which work values do not seem to change overall with age to any marked degree. (pp. 1042-1043).

Herr and Cramer (1972, p. 270) state: "All in all, the Work Values Inventory appears to be an instrument of high potential which measures a greater variety of values than other instruments."

Work Values of Pre-Secondary Students

Singer and Stefflre (1954 a, b) using the Vocational Values Inventory asked high school subjects to name the three most important factors in choosing a job. Comparing Centers' data for adults (1948) it was found that the high school students tend to value fame, money and interesting experience more than adults, and that adults value independence more than high school subjects. Wagman (1965) compared similar data on college subjects and found many differences, although his design did not allow for the influence of age, sex or sampling error.

The WVI has been used in several studies investigating the relationship of work values to other variables. Hana (1954) investigated the work values of 9th and 12th graders to determine if age, intelligence,

socio-economic level and occupational interest level differed. Only consistency in choosing one value over another was found to be significant. Thomas (1974) utilized a similar study employing the WVI to determine the work value effects of social position, race and sex of 9th grade students. Analysis of variance results determined primary differences for race and sex with lowest value scores achieved by low social position black females.

Dipboye and Anderson (1959) also found significant sex differences between occupational value ordering of 1181 high school students. While finding sex differences with their locally devised value instrument they found no significant differences in value ordering or age or grade between freshmen and seniors. Tierney and Herman (1973) studied 149 high school students to determine whether age, sex, grade level, school program, intelligence and social class influenced the accuracy of self-knowledge of vocationally relevant attributes. Subjects were administered the Kuder Preference Record-Vocational Form CH, and WVI among other instruments. While there was considerable variability in demonstrated self-estimate ability, the overall results indicated that none of the variables had any significant influence. This data contradicts O'Hara and Tiedeman's (1959) findings in a similar study. They found positive results in most of the variables although Tiedeman (1973) cites that differences in the subject populations (grade, sex, type of high school, social

class values), statistical treatments (canonical correlations) and work value orientation may account for it. He believes that the Tierney and Herman study was not broad enough to provide verification or refutation of the O'Hara and Tiedeman study.

Pallone et al (1970) studied the relationships between the WVI and a semantic differential measure of self-meaning for 531 black and white high school students of both sexes. No significant positive relationships were observed, however significant negative relationships were observed at .05 between self-meaning and intellectual stimulation, creativity and prestige; at .01 between self-meaning and associations, management, and independence.

In a study of 813 Hawaii and Mainland high school seniors of both sexes McArdle (1972) used the WVI to determine if differences existed between the two groups of students. He found significant differences in value orientation between Hawaii and Mainland students in general and with regards to sex. There were also value differences between males and females for both major group subjects. Johnson (1970) studying New Mexico senior high school students for effects of maturation and sex upon occupational values found significant differences between races (Anglos, Spanish-American and Indians), grade level (9-12) and sex. All differences were at the .05 level.

Lastly a study by Zaccaria et al (1972) investigated the values of college bound students as compared with high school seniors-in-general

on the WVI. College bound male students scored significantly lower than the WVI standardization group on 13 of 15 work values. While college bound female students obtained lower scores on 10 scales the authors concluded that college bound youth apparently attach somewhat less importance to many work values than do high school seniors-in-general.

Work Values of Post-Secondary Students

Among the most extensive studies of work values is that reported by Rosenberg (1957). He asked questions about the fundamental reasons for the educational objective of several thousand college students. He made use of the following values in his analysis: (a) provide an opportunity to use my special aptitudes or abilities; (b) provide me with a chance to earn a good deal of money; (c) permit me to be creative and original; (d) give me social status and prestige; (e) give me an opportunity to work with people rather than things; (f) enable me to look forward to a stable, secure future; (g) leave me relatively free of supervision of others; (h) give me a chance to exercise leadership; (1) provide me with adventure; (j) give me an opportunity to be helpful to others.

He found that three basic values were expressed: working with people in a helping manner, money-security, and self-expressive. These values seemed to be continuous, ranging from the desire to

express creativity and originality on one end of the scale and the desire for a stable and secure future on the other.

Rosenberg found that the expression of values of students in different fields varied systematically. For example, social work majors, premedical students and education majors were highest in the desire to help and work with people, while engineering, natural science and agriculture students were lowest in this value. In examining the differences of value orientation between men and women, he observed that women seem more inclined to value "working with people" whereas men lean more toward seeking security in their work. Career orientated women, significantly enough were found to express values more similar to those of career orientated men than women orientated to marriage and family.

Spaeth (1961) investigated the relationship of work values to the choice of academic careers among arts and science graduate students. Sampling 2,842 subjects and using a modified Rosenburg value scale, he found that the choice of academic careers was related to "altruistic" values and to "self-expressive" values.

In a study involving 5,495 National Merit Finalists, Astin and Nichols (1964) conducted a factor analysis of questionnaire responses concerning life goals. The response revealed seven factors, subsequently entitled self-esteem, personal comfort, artistic motivation, scholarship, science technology, prestige and altruism. They did

however find general instability of values, but this may be attributed to the unusually talented subjects.

Another study, (Miller, 1956), orientated toward objectives similar to Astin and Nichols compared the work values of students who were classified into three groups: no vocational choice, tentative choice, and definite choice. The results indicated that the highest single value held by the "no choice" was security, whereas among students with a definite choice, career satisfaction was ranked highest.

Thomas (1973) in an investigation of change in work values through group counseling of college freshmen found no overall difference in the mean work value scores which supports the concept of value stabilization.

A longitudinal study of work values was conducted by Underhill (1966) to determine whether values determine career choice or career choice determines work values or both. Values were found to be "stronger" for humanities, education and law seniors while career was found to be "stronger" for medicine, engineering, physical science and business majors. He believed his findings were congruent with those of Rosenburg (1957) in that subjects in careers requiring extensive undergraduate preparation were indeed more stable in career development.

Fretz (1972) also investigated the value orientation of education,

law, medicine, engineering and business sophomores. Subjects were requested to rank 11 occupational values in order of importance to career satisfaction. Discriminant analysis identified five significant variables: pay received, advancement, working conditions, fringe benefits and prestige.

In another study designed to determine differences in work values between curricula groups of college students, Krause (1970) used a modified 18 scale WVI and tested 180 males representing Holland's six categories of vocational choice. Assuming that individuals choosing similar college majors will have similar work values, Krause found some support in that nine of the 18 values varied significantly between the six groups. The values were: social welfare, freedom in work, satisfactory supervision, creativity, variety, material esteem, status, family esteem and religious esteem.

Several other studies have led to significant differences between value orientation of different groups. Normile (1967) used the WVI to discriminate among seven occupational groups. Analysis of variance resulted in significant differences between these professional groups. Sternberg (1953) studied the relationship of values, interests and personality to college majors. Using the Kuder, Allport-Vernon-Lindzey Study of Values and the MMPI on 270 subjects he was able to determine significant differences in values, interests and personality variables between students in nine different curricula areas.

Richardson (1974) administered the WVI and a career orientation measure to college women and found work-orientated women tended to choose traditionally feminine occupations in contrast to the career-orientated women whose aspirations included higher level and less traditional occupations. Women also were the subject of Self's (1973) study when she investigated the possible differences between women honor students and regularly admitted women students in their self-concepts, work values and attitude toward the university. The two groups had five significant differences in values determined by the WVI. These values were: achievement, management, economic returns, security, surroundings and associates. Underwood (1971), however, found no significant difference between male students at the University of New South Wales who applied for scholarships versus students-in-general at the university on Super's WVI. The two groups had a high correlation ($r = .81$) between them indicating a high degree of similarity of work value preferences.

The investigation of work values within the two-year or community college has been limited. Using the WVI Jones (1974) assessed part-time community college student's work values and attempted to determine if the values were related to selected demographic characteristics of age, sex, race and level of educational attainment. Contrary to his hypothesis work values of males did not differ significantly from those held by females. Neither was there any significant

difference found between race or educational attainment of the 559 subjects. Grace (1974) used the WVI in an attempt to differentiate the work values of freshmen community college students in liberal arts, secretarial, business administration and allied health majors. She found that it was possible to detect significant differences in different groups. Sex was also a discriminant with the values of altruism very marked with females and economic returns for males. As a secondary aspect of the study, the WVI was found to be a better predictor of college grade point average than high school grade point average.

Miller (1974), using the WVI in an examination of work values and vocational maturity, hypothesized that vocational maturity was positively associated with intrinsic work values and negatively associated with extrinsic work values. His results indicated that the former was true for females, but not for males and the latter was only partially supported. Borow and Hendrix (1974) used the WVI as one of five instruments in a study of 9,610 community college students in Minnesota. They were trying to determine and measure the environmental social-psychological characteristics of students as related to the success or failure of occupational programs and to identify predictor variables by which career patterns can be significantly differentiated. Used in this manner the WVI has relatively little impact as only two values were significantly active: independence and altruism.

Students in two-year transfer, and in one and two-year occupational programs were studied by Anderson (1972) to determine difference in personal and interpersonal values measured by the Surveys of Personal and Interpersonal Values. While these values are not specifically work values she was able to determine differences between students in the three programs on personal values. The results indicated that occupational students appeared to be more conforming and practical minded than transfer students who are less conforming, less flexible, and place more importance on new and different experiences. Gordon (1975) utilized the Survey of Personal Values and the Allport-Vernon-Lindzey Study of Values to study community college nursing students. Three significant values (orderliness, goal orientation and achievement) appeared in a comparison of grade level, one (goal orientation) on the variable of age and one (achievement) on the variable of marital status.

Research Relevant to the VPI

The VPI, developed by Holland (1958), is an interest (personality) inventory which according to the author (Holland, 1965) can be used for the following purposes:

> (1) As an interest inventory, since its content is occupational, and since some scales correspond to the dimensions measured by interest inventories; (2) as an inventory to assess the personality types in a theory of vocational choice and (3) as a technique to

stimulate occupational exploration among high school and college students (p. 1).

The present form (6th rev.) consists of 160 occupational titles to which a person responds positively or negatively to the appeal of the title. The inventory yields 11 scales: (1) Realistic, (2) Intellectual, (3) Social, (4) Conventional, (5) Enterprising, (6) Artistic, (7) Self-control, (8) Masculinity, (9) Status, (10) Infrequency, and (11) Acquiescence. The first six scales correspond to the six personality types and model environments which are the basis of Holland's theory of personality and vocational choice (Holland, 1966, 1973). The five remaining scales are specific to the inventory and aid in its interpretation.

One form of the inventory is available and is used for both males and females, although there are separate profiles. Administration time is from 15-30 minutes and the answer sheet is hand-scored in about a minute.

Studies of the instrument's reliability report moderate to high reliabilities. Corrected split-half (K-R-21) reliabilities based on 6,289 male college freshmen range from .57 to .89 on the 11 scales with a median of .89. Reliabilities for 6,143 females range from .50 to .89 with a median of .77. Test-retest reliability coefficients over a 1-year period for a sample of 17 college freshmen ranged from .62 to .98 with a median of .83. The manual presents data for groups of

employed adults, college freshman, medical patients, and National Merit Scholarship Finalists.

Recent research has also provided additional norming data. Abe and Holland (1965) assessed 12,432 college freshman from 31 colleges for their interests, activities, attitudes and life goals, and vocational inspiration. Holland (1968) utilized 1,576 men and 1,571 women from 28 colleges to test the personality typology on a "normal" population as opposed to the National Merit Scholarship Finalists. Holland, Whitney, Cole and Richards (1969) added VPI data for a sample of two-year college students (12,345 men and 7,968 women in 65 colleges) to the data obtained previously on four-year college students. Baird (1970) studied a national sample of 11,249 men and 9,120 women attending 37 two and four year colleges which related VPI scores to person's life goals, self-ratings of ability and personality traits and potential for achievement. Finally, Edwards, Nafziger and Holland (1974) tested 7,263 freshman from 31 colleges as part of a sample group of 10,207 subjects to investigate the relationship between occupational perceptions and vocational development. Their findings suggest that such perceptions may be used to estimate a person's level of vocational development.

Validity for the instrument has primarily been concerned with construct and predictive classifications. Since its inception in 1958, there have been six revisions in which both scale rationale and actual

scales were refined. Validation procedures employed both rational and empirical means. The VPI scales have been intercorrelated with several personality inventories and scales: California Psychological Inventory, Minnesota Multiphasic Personality Inventory, Sixteen Personality Factor Questionnaire, National Merit Student Survey and Barron's Independence of Judgement, Originality and Complexity Simplicity and the Allport, Vernon and Lindzey Study of Values. Generally the observed relationship lent support to the construct validity and meaning attributed to the VPI scales (Holland 1960, 1962, 1963).

Many studies have dealt with the validation of the personality types in addition to those studies identified in the norming groups. Selected studies include: six monograph reports by Holland (1962, 1963, 1964, 1963-1964, 1964, 1968), Wall, Osipow, and Ashby (1967), Folsom (1969), Harvey (1971) and Williams (1972).

Numerous studies have shown that people or occupations belonging to the same category have similar characteristics. Among them are Holland (1968), Lucy (1971, 1976), Campbell (1971), and Wakefield and Doughtie (1973). Likewise predictive studies have been done by the following researchers: Holland and Astin (1962), Nichols and Holland (1963), Horowitz et al (1972), Dempsey (1972) and Gross and Gaier (1974).

Reviews of the instrument have been quite favorable, Stahman (1972) reports:

> In conclusion, the VPI is a well developed interest inventory based on a soundly conceived and readily understood theory of personality and occupational classification. The inventory does provide reliable and valid information which can be used by the counselor . . . in understanding the client and for prediction of vocational choice (p. 86).

Joseph Johnson reviewing in Buros (1972, pp. 385-386) states that the "VPI probably has more validity and usefulness as a vocational inventory than as a personality measure . . . . The VPI is a promising inventory that is deserving of serious attention. Use by counselors will help them to better understand vocational decision-making." Paul Lohnes, again in Buros (1972, pp. 386-387) states that "Holland's theory and the VPI instrument will continue to be significant in the research enterprise and appear to be ready for widespread deployment in the career guidance enterprise."

The VPI has been used in many studies and in a variety of ways. Research utilizing Holland's theory has generally supported his contentions and the effectiveness of the VPI. Folsom (1969) indicated that Holland's descriptions of the six personality types were generally consistent with student self-descriptions at the University of Maine. Schutz and Blocher (1961) also gave support to the idea that level of

occupational choice and aspiration reflected personal evaluation of self. Osipow, Ashby, and Wall (1966) concluded that college freshman tended to choose occupations that were in categories consistent with their personality types.

Ko (1972), as part of his study attempted to ascertain whether Holland's typological theory of career choice was applicable to grouping community college students. The personality and interest patterns of the 128 subjects supported his research question. A study specifically structured to answer the question of applicability of Holland's theory to community college students was conducted by Peck (1970). In testing 318 students a strong relation between Holland's six personality types and vocational choice was established. One major inconsistency was noted by the preponderence of social type vocational choice by female students. It was determined that the VPI was an effective instrument in predicting type of vocational choices made by students for idealistic and practical choices and major fields of study. This study contradicts Holland and Lutz (1968) who found that students expressed choice was more effective in prediction than the VPI over a 12 month period.

Personality patterns determined by Holland's theory and vocational choice of community college students were studied by Bitney (1975). Testing for relationships within the consistency in personality patterns and congruency in vocational choice it was found that these

were significant factors for male students which supports Holland's concepts. Andrews (1971) dealing with part-time community college students supported Holland's premise that people search out environments and thus, vocations are compatible with their personalities.

Johnson (1971) and Salomone and Shrey (1973) studied Holland's theory in conjunction with technical-vocational students. While studying the relationships of academic achievement to the concepts of congruence, consistency and homogeneity, Johnson found differences only between the consistency/inconsistency variable. He utilized the VPI to successfully differentiate students on the three variables mentioned. Salomone and Shrey reviewed the research on Holland's theory as it applies to non-professional workers and formulated evidence that workers search for a vocational environment compatible with their vocational personality. This is complimentary to Andrews' (1971) results.

Male vocational-technical students were studied by Florence (1973) to determine the relationship of the concepts of congruency, consistency and homogeneity to academic success. Subjects were classified on dichotomous levels of the three concepts using the VPI. Results of the analysis indicated that congruent and consistent VPI profiles had predictably higher grade point averages and were rated higher by their instructors on 11 personality factors. Incongruent and inconsistent student profiles had significantly lower achievement in terms of grades

and instructor ratings. No significant differences were found for homogeneous profiles. Lombardi (1973) however did not achieve significant differences between higher grade point and categorized community college students. The categories were determined by consistent, congruent and homogeneous profiles on the VPI.

Other studies configured within the congruency, consistency and homogeneity trichotomy of Holland's theory have shown inconsistent or conflicting results. Greater satisfaction of career choice was studied by Morrow (1971) and students who had made congruent choices expressed significantly greater satisfaction. Walsh and Osipow (1973) found that congruent college students report greater specificity in occupational planning of preferences through major field choice. Villwock (1975) hypothesized that there was a relationship between stability of choice and both age and sex however no significant differences resulted. Walsh and Lewis (1972) however found significant differences between sexes when personality variables were compared to freshman who made congruent, incongruent and undecided college major courses.

Summary

The review of the literature has provided a broad insight into the field of values, specifically work values. Numerous studies have been conducted on different populations, under different conditions and with a variety of results. The community college population has had an

increasing amount of research in the past few years yet many factors concerning work values and the community college student have yet to be answered. This lack of research concerning the work values of this specific group supports the need for its investigation.

Work values have been demonstrated to be viable motivators in the behavior orientation of individual's life styles, of which a predominant portion is that concerned with vocational participation. However from an originating viewpoint there is little agreement as to the point of genesis or the mechanism which causes them to operate. Even the definition of work values shows considerable variation among writers. A theme of commonality for the definitions does, however, center upon the concept that values are attitudes held in positive favor which causes the individual to express consistent behavior and are an internal part of the personality.

The research presents several structures and taxonomies of work values. Twelve to 15 seem to be most universal in describing the value spectrum, although three to six value clusters have been identified through factor analysis. Ginzberg's (1951) original values trichotomy of intrinsic, extrinsic and concomitant orientations has shown itself to have a significant affect on clustering values system as evidenced in several independent research efforts. His trichotomy appears, however, to be more utilitarian in description than the dimensions yielded by factor analysis studies.

Studies have been varied in the analysis of the value structure. Many researchers have assessed a person's value structure by identifying the strongest or predominant values, suggesting that only one value may be operational or gratified at a time. Other investigations have utilized rank order comparisons which suggests a hierarchy of values. It would appear that the hierarchy arrangement has greater suitability to the structures containing a greater number of work values, such as the WVI.

It also appears to be significant in the literature that persons in, or anticipating entry into, selected occupational areas have similar work value hierarchies than do others entering different groups. Research on Holland's personality typologies has also demonstrated that individuals may be grouped according to basic personality and occupational groups. Establishment has also been evidenced that higher level occupations generally value intrinsic rewards, while extrinsic values are held more strongly by lower level occupational functioning.

No definite analysis has been established as to the way the value system functions and matures within the individual. Longitudinal studies are very limited and few studies have approached the dynamics of the work values force structure. Basic analysis assumes that value systems undergo differentiation and change as the individual

matures with the maturation process providing specificity or clarification of existing value orientation.

Weak and conflicting relationships have been found between value configuration and demographic variables including family status factors, sex, age, race and educational attainment, among others. Greater differentiation appears to be correlated with age or perhaps maturity in the comparison of various educational level studies. This could result as a part of the clarification process. Other factors causing conflicting or consistent relationships can possibly be the effects of inadequate early gratification, defects in the socialization process or parental identification problems. These factors are mainly subjective in nature with little empirical support.

In conclusion it appears that the concept of work values is a viable one in supporting the description of vocational behavior, perhaps more so than interests or other conceptions of satisfaction. As work values appear to differentiate among groups and personality and occupational characteristics appear also to do likewise, it seems natural to explore the relationship of the two. This relationship is specifically directed towards students in the community college as they have been demonstrated to be pragmatic, work-orientated and primarily vocational in orientation. These major relationships and characteristics lead to the conclusion that community college students need to have their work values examined and evaluated in conjunction with personality and occupational orientation.

Chapter 3

Methodology

Chapter 3 presents a description of the research methods and procedures used in selecting the random sample and in collecting the data for analysis. The following areas will be presented: (a) population and characteristics of the sample studied, (b) data collection procedures, (c) description of instruments, and (d) statistical methodology.

Population and Sample Characteristics

The subjects utilized in the study were all students enrolled in the Winter Quarter, 1976, of Thomas Nelson Community College, (TNCC), Hampton, Virginia. The institution is one of 23 community colleges of the Virginia Community College System (VCCS) and serves the six political divisions of Planning District 21. This service area includes the cities of Newport News, Hampton, Williamsburg and Poquoson and the counties of York and James City.

The college offers two major sectors of study: (a) the University Parallel/College Transfer Program consisting of six curricula areas, and (b) the Occupational-Technical Program consisting of 27 diploma and certificate programs. The institution subscribes to a strong "open door" admission policy and thus has a strong Developmental Studies Program concentrating in English, mathematics and reading skills.

Operational since 1968, the college has a current enrollment of 4911 students which equates to a "full time equivalent" (FTE) student value of 3066. Located in a rapidly expanding urban area, with an economic base of light and heavy industry, and military complexes, the institution still reaches the rural and inner city study as well as a large proportion of military personnel. The college is designated as a Serviceman's Opportunity College (SOC).

All students are commuters and are exclusively, with some few exceptions, from the service area. The student body is quite heterogeneous but is fairly consistent with other Virginia Community Colleges as evidenced by a recent study of some 30,000 Virginia community college students by Trufont, Kelly and Snyder (1975). The student characteristics are also relatively consistent with a national analysis conducted by Astin et al, (1973). Differences exist mainly in veteran's population (currently at 42% at TNCC versus 26% in the VCCS and 6% nationally); a higher average age (26 years of age at TNCC versus 22 years of age for the VCCS and 21 nationally); and a greater percentage of minority students (26% for TNCC, 12% for VCCS, 8% nationally).

Subjects for the study were randomly selected by a computer program from the list of currently enrolled students for the Winter Quarter of 1976. This list includes all individuals enrolled full-time or part-time in academic credit curricula or courses. A

sample of 500 students was chosen and a letter was sent to each explaining the study and asking for their participation. A copy of the letter is included in Appendix D.

Data Collection Procedures

The explanation and participation request letter was sent to the random sample in groups of 100 to facilitate testing management. Five separate time periods were arranged during February 1976 each designed to test a group of 100 students. Make-up sessions were arranged individually in the Office of Career Planning and Placement at the institution. After completion of the testing period 451 sets of data were useable for the study.

The subjects were each given a packet of materials which consisted of the following items:

(a) Curriculum Information Sheet (CIS) - Appendix E

(b) Permission Sheet for Records Access - Appendix F

(c) The Work Values Inventory

(d) The Vocational Preference Inventory

The reasons for the study and the directions for the CIS and the instruments were given, uniformly, to each group by the investigator. Subjects were paced on each item of the CIS and then allowed sufficient time to complete the WVI and the VPI. Complete subject participation time was approximately 45 minutes.

Each subject's materials were coded in serial number sequence to preserve confidentiality of the data. Information from the CIS was numerically coded for computer processing manipulation. Variables were identified from the CIS. The Permission Sheet was cross-referenced with the code number and was maintained on file by the investigator if the need occurred to contact a specific individual.

For the WVI, the machine scoring booklet was used, and the scores were presented both in raw scores and percentile forms. The individual scores of the work values were identified as numerical variables for statistical purposes. Appendices G through L provide comparative profiles for each of the work values of the WVI with the six occupational/personality typologies of Holland.

The VPI was individually hand scored for each subject and the raw score of each scale was utilized. The raw scores of the first six scales: Realistic, Investigative, Social, Conventional, Enterprising and Artistic were identified as numerical variables for statistical purposes. The highest raw score of the six scales was identified as the High Point Code (HPC) and was assigned a variable position. Two other variables were also identified: (a) assignment to one of three consistency levels and (b) one of two congruency levels.

Data for the appropriate hypothesis was punched in 80 column computer cards and processed by the Virginia Community College System's

Computer Center on the IBM 370/145 digital computer.

Description of the Instruments

The WVI, which was developed by Donald Super of Teachers College, Columbia University, will be used to measure the intensity of certain identified work values. The WVI was developed to meet the need for a means of assessing the goals which motivate men to work. It is designed "to measure the values which are extrinsic to as well as intrinsic in work, the satisfactions which men and women seek to work and the satisfactions which may be the concomitants or outcomes of work."

The instrument contains 45 statements which the subject is asked to rate on a scale of 1 (unimportant) to 5 (very important). It is from these weighted ratings that the strength of each value is determined. The WVI consists of a single form in machine-scorable booklets. The range of the instrument is Grades 7-12; College; and Adult with a testing time of approximately 15 minutes.

The latest revision (1970) of the WVI includes not only some of the more commonly measured intellectual and social values (altruism, aesthetics, intellectual stimulation) but also some that are not commonly included in other general value instruments. The relative strength of the following 15 values is measured:

(a) Creativity, (Cr)

(b) Management, (Ma)

(c) Achievement, (Ac)

(d) Surroundings, (Su)

(e) Supervisory Relations, (SR)

(f) Way of Life, (WL)

(g) Security, (Se)

(h) Associates, (As)

(i) Esthetics, (Es)

(j) Prestige, (Pr)

(k) Independence, (In)

(l) Variety, (Va)

(m) Economic Return, (ER)

(n) Altruism, (Al)

(o) Intellectual Stimulation, (IS)

Descriptions for the WVI scales may be found in Appendix A.

The VPI, developed by John Holland, The Johns Hopkins University, will be the instrument used to measure the personality orientation or the occupational typology of the subjects. The current (sixth edition) will be used which consists of an inventory of 160 occupational titles. Using a projective orientation, the subject theoretically expresses his self-image, his goals, his skills and his defense mechanisms through choice/rejection of a specific occupation.

The instrument is a self-administered inventory requiring 15-30

minutes per administration. Respondents record "yes" and "no" answers on the answer sheet to reflect their likes or dislikes respectively. No marks are made for undecided. Scoring, usually completed in 60 seconds, is accomplished with a stencil or scoring key. The subject's score is comprised of the total "correct" responses in each scale, except for the Acquiescence Scale. That score consists of the number of "yes" marks in the first 30 items. The instrument is useable for high school and college students and employed adults.

There are 11 scales involved with the VPI, six of which are vocational interest scales and the remainder are personality scales. The vocational interest scales are: (a) Realistic, (b) Investigative, (c) Social, (d) Conventional, (e) Enterprising and (f) Artistic. The remaining five scales are: (a) Self Control, (b) Masculinity, (c) Status, (d) Infrequency Scale, and (e) Acquiescence. The six vocational interest scales will be the primary scales used in this investigation as they are the major identifiers of Holland's theoretical constructs of occupational/personality and environmental typologies. A detailed description of the occupational/personality typologies is presented in Appendix B.

Statistical Methodology

The statistical methods employed in the treatment of the data were designed to:

a. determine significant relationships and differences among the six personality typologies of the VPI as they relate to identified work values on the WVI of the selected subjects.

b. determine significant differences between discriminated mean work value scores for subjects that have been designated as being congruent or incongruent between their High Point Code (personality type) and chosen curriculum.

c. determine significant differences between discriminated mean work value scores for subjects that have been designated as having high, middle, or low levels of consistency by personality typology coding.

The first statistical procedure involved was that of discriminant analysis to determine significant relationships and differences between the six personality types and the identified work values. The discriminant analysis procedure (Subprogram DISCRIMINANT, Chapter 23) from the Statistical Package for the Social Sciences (SPSS) (Nie et al, 1975) was utilized on the computer system. The stepwise selection method was applied to allow variables to be entered in the analysis based on their discriminating power. Wilks' lamba was designated as the selection criteria. The level of significance was selected at the .05 level of confidence.

The second statistical procedure used Oneway Analysis of Variance Program (Subprogram ONEWAY, Chapter 22) from the SPSS

(Nie et al 1975). The level of significance was selected at the .05 level of confidence. The procedure resulted in the application of the discriminated work value variables of the WVI being tested for significant differences between two groups of scores designated as (a) Congruent and (b) Incongruent.

The third statistical procedure also utilized the same ONEWAY procedure identified above. This procedure tested the discriminated work value variables of the WVI for significant differences between three groups of scores designed as (a) high, (b) middle, and (c) low levels of consistency in VPI scores. A level of significance was selected at the .05 level of confidence.

Other statistical procedure involved Subprograms FREQUENCIES, CROSSTABS, and BREAKDOWN (Chapter 14, 16 and 17) of the SPSS (Nie et al, 1975). This procedure involved the identification of frequency counts and standard descriptive statistics such as mean, standard error, standard deviation, variance, etc. The program materially assisted in the designation of groups by personality typologies and levels of consistency and congruency.

Chapter 4

Results

Chapter 4 presents the analysis of the data gathered for this study. It is presented to correspond to the following three major hypotheses:

1. There will be a major difference in work value orientation between selected personality types as identified by mean work value scores and High Point Codes (personality type groupings). Specifically it is hypothesized on an a priori basis that the following major values will be significantly discriminated for each of the six personality types:

    a. Realistic: Achievement, Economic Return, Security and Independence

    b. Investigative: Intellectual Stimulation, Creativity, Achievement and Prestige

    c. Social: Altruism, Achievement, and Surroundings

    d. Conventional: Security, Economic Return and Surroundings

    e. Enterprising: Prestige, Economic Return, Way of Life and Altruism

    f. Artistic: Creativity, Esthetics, Independence and Surroundings

2. There will be significant differences between discriminated mean work value scores and subjects identified as being congruent or

incongruent in their relationship between High Point Code (personality type) and chosen curriculum.

3. There will be significant differences between discriminated mean work value scores and high, middle, and low levels of consistency as identified by personality typology coding.

Hypothesis 1

Hypothesis 1 deals with the relationship between the Work Values from the WVI and the six personality typologies from the VPI. The procedure of Discriminant Analysis was used to analyze this relationship. Kerlinger (1973, p. 650) cites the two main uses of this procedure (a) "as a classification and diagnosis method and (b) to study the relations among variables in different populations and samples."

The discriminating variables are the work values themselves and are used to construct a discriminant function. This function is a composite of the variables that have been most discriminant, that is, the F-ratio is of significant strength to remain in the computations until cut-off criteria is met. Such criteria for this discriminant procedure was: F for inclusion equals 1.00, F for deletion equals 1.00 and tolerance level equals .001. The F-ratio measures the ratio between-to-within group variance thus the smaller the Value of F, the greater the degree of overlap.

Data for the procedure was arranged in two-group sequences based on an inclusive-exclusive principle. Thus all Realistic High

Point Code members were compared against all other members. Each remaining HPC group was then, in turn, compared against all other members not in that category.

One discriminant function was computed for each set of groups. Table 1 provides the necessary data for analysis. Overall the results were quite strong. Eigen values are a special measure computed in the process of deriving the discriminant function and it is a measure of the relative importance of the function. When a single eigen value is expressed as a percentage of the total sum of eigen values an easy reference is made to the relative importance of the function. All derived eigen values for Table 1 equated to a relative percentage of 100.00 thus the functions are inclusive.

Canonical correlations are also shown and they also provide a measure of association to the importance of the discriminant function. Based on a maximum value of 1.00 and a minimum value of 0.00 most correlations for Table 1 were within the .60-.70 range, a relatively strong degree of association. The Artistic group established the lowest correlation of 0.379 which the Social group achieved a .780.

Another test of discriminant function strength is Wilks' lamba, a multivariate measure of the degree of separation between groups. It varies between 0.00 for perfect between group separation to 1.00 for complete overlap of groups. The lamba scores were varied for the

Table 1

Discriminant Function Analysis for All High Point Code Groups

HPC Group	Eigen[a] Value	Canonical Correlation	Wilks' Lamba	$\underline{X}^2$
Realistic (n=80)	0.588	0.609	0.629	206.036* (df=8)
Investigative (n=87)	1.427	0.767	0.412	396.746* (df=3)
Social (n=91)	1.550	0.780	0.392	418.359* (df=4)
Conventional (n=67)	1.356	0.759	0.425	383.479* (df=3)
Enterprising (n=49)	0.886	0.685	0.532	283.587* (df=4)
Artistic (n=77)	0.168	0.379	0.857	68.673* (df=11)

* $p > .001$

[a]All Eigen Values have a relative percentage of 100.00

HPC groups ranging from a low 0.392 for the Social group to a high of 0.857 for the Artistic group. Subprogram DISCRIMINANT transforms the lamba score into a chi-square statistic which provides a test of significance for lamba. All chi-squares for the discriminant functions were greater than the .001 level of significance.

Summary Tables (2 through 7) provides an analysis of the stepwise criteria by which the independent variables (values) were selected for inclusion into the discriminant analysis. Stepwise procedures allows the independent variables to be selected on the basis of their discriminating power. The tables provide the F-value and Wilks' lamba of each of the values identified by the stepwise selection method for inclusion to or deletion from the discriminant function. Levels of significance are also noted. Significant values ranged from a high of eight for the Realistic HPC group to two for the Investigative group.

Table 8 provides the analysis of the significant values which constitute the designated discriminant function for each group. The discriminant function coefficients represent the relative contribution of their associated variables to that function when the sign is ignored. The sign denotes whether the variable is making a positive or negative contribution.

The Realistic group had positively related variables of Creativity, Esthetic and Associates while Security, Intellectual Stimulation,

Table 2

Summary Table

Realistic Versus Non-Realistic Group Analysis

Step Number	Variable Entered Removed	F Value to Enter or Remove[a]	Number of Variables Included	Wilks' Lamba
1	Se	102.43	1	0.814
2	Cr	94.11	2	0.672
3	Es	13.29	3	0.753
4	IS	5.66	4	0.645
5	As	3.31	5	0.641
6	Pr	3.19	6	0.636
7	Ma	3.78	7	0.631
8	Al	1.22*	8	0.629

[a] All values are significant at $p > .001$ except those indicated with an (*) for which $p=.05$.

Table 3

Summary Table

Investigative Versus Non-Investigative Group Analysis

Step Number	Variable Entered Removed	F Value to Enter or Remove	Number Variables Included	Wilks' Lamba
1	WL	627.99**	1	0.417
2	ER	3.53*	2	0.414
3	IS	1.72	3	0.412

** $p > .001$

* $p = .05$

Table 4

Summary Table

Social Versus Non-Social Group Analysis

Step Number	Variable Entered Removed	F Value to Enter or Remove	Number of Variables Included	Wilks' Lamba
1	WL	648.04**	1	0.409
2	Se	14.51**	2	0.396
3	Es	2.79*	3	0.393
4	Ac	2.00	4	0.392

** $p > .001$

* $p = .05$

Table 5

Summary Table

Conventional Versus Non-Conventional Group Analysis

Step Number	Variable Entered Removed	F Value to Enter or Remove	Number of Variables Included	Wilks' Lamba
1	Se	569.93*	1	0.441
2	ER	10.03*	2	0.431
3	Es	6.90*	3	0.525

* $p > .001$

Table 6

Summary Table

Enterprising Versus Non-Enterprising Group Analysis

Step Number	Variable Entered Removed	F Value to Enter or Remove	Number of Variables Included	Wilks' Lamba
1	WL	377.90**	1	0.543
2	ER	4.16*	2	0.538
3	Ma	3.35*	3	0.534
4	Es	3.16*	4	0.530

** $p > .001$

* $p = .05$

Table 7

Summary Table

Artistic Versus Non-Artistic Group Analysis

Step Number	Variable Entered Removed	F Value to Enter or Remove	Number Variables Included	Wilks' Lamba
1	Va	26.42**	1	0.944
2	Es	10.98**	2	0.922
3	ER	9.39**	3	0.903
4	Su	8.73**	4	0.886
5	Pr	3.45**	5	0.879
6	Al	2.35*	6	0.874
7	SR	1.86	7	0.870
8	Ac	1.45	8	0.868
9	Se	1.54	9	0.866
10	In	1.40	10	0.862
11	Pr	0.72	9	0.863
12	Ma	1.28	10	0.860
13	Cr	2.09*	11	0.857

** $p > .001$

* $p = .05$

Table 8

Significant Value Composition of Discriminant Function With Coefficients for High Point Code Groups

HPC Groups	Discriminated Values[a]	Discriminant Coefficients
Realistic	Security	-.81
	Creativity	.61
	Esthetics	.44
	Intellectual Stimulation	-.45
	Associates	.13
	Prestige	-.13
	Management	-.13
Investigative	Way of Life	-.61
	Economic Return*	-.19
Social	Way of Life	-.55
	Security	-.41
	Esthetics*	.11
Conventional	Security	.59
	Economic Return	-.18
	Esthetics	.55

Table 8 (continued)

HPC Groups	Discriminated Values[a]	Discriminant Coefficients
Enterprising	Way of Life	.73
	Economic Return*	.36
	Management*	.10
	Esthetics*	-.15
Artistic	Esthetics	.61
	Surroundings	-.45
	Economic Return	-.41
	Creativity*	.27
	Altruism*	.22

[a]All values have a p .001 except those indicated with an (*) for which p = .05.

Prestige and Management were negatively related. Only one of the a priori hypothesized values was present. This was the value of Security and for this particular group it provided a negative contribution. The values of Achievement, Economic Return and Independence were not significant. The values of Creativity and Associates, however, are important elements of the Realistic group composition. As Appendix A and B point out, realistic individuals enjoy creating things with their hands and the value of Associates is more predominant in office workers and lower level skilled occupations. The latter constitutes a great percent of the Realistic group.

The Investigative group had two significant values, both negatively weighted. Thus Way of Life and Economic Return discriminated those who are not investigative in nature. No positively orientated values were present. The a priori hypothesized values were Intellectual Stimulation, Creativity, Achievement and Prestige. The Intellectual Stimulation value was identified in the discriminant function but its level of significance was $< .05$.

Individuals who were Social orientated had significant values of Way of Life, Security and Esthetics. Esthetics was positively orientated while Way of Life and Security were negatively. Hypothesized values were Altruism, Achievement and Surroundings. None of these values appeared except Achievement in the stepwise discrimination, however its F-ratio was $< .05$ and was not considered in this

evaluation. The significant values do support the concept of socially orientated individuals in that esthetic traits characterized as being humanistic and orientated to beauty and art; a somewhat related characteristic of the Social group. The negative values of Way of Life and Security apparently are specific to the sample group.

Conventionally orientated individuals produced significant values of Security, Economic Return and Esthetics, with Economic Return being negatively directed. Hypothesized values were Security, Economic Return and Surroundings. Security was matched but Economic Return appeared as a non-discriminating factor for Conventional group members. The negative Economic Return is contradictory to Holland's description of the type in that conventional persons value material possessions. The Esthetics value appears to be a characteristic of the surveyed group but is generally not considered to be part of the Conventional personality composite.

Cases identified as Enterprising had significant values in the discriminant function for Way of Life, Economic Return, Management, and Esthetics with all being positive orientated, or indicative of the Enterprising group, with the exception of Esthetics. Hypothesized values were Prestige, Economic Return, Way of Life and Altruism. The values of Way of Life and Economic Return were confirmed while Prestige and Altruism were not part of the discriminant function. The other positive value of Management has a definite part in the

personality composition of Enterprising persons. The Way of Life, Economic Return and Management values provide a very realistic and descriptive cluster or discriminant function.

The final group, Artistic, had five significant values: Esthetics, Surroundings, Economic Return, Creativity, Altruism, and Variety with Surroundings and Economic Return being negatively orientated or being indicative of non-Artistic group members. The hypothesized values were Creativity, Esthetics, Investigative and Surroundings. The values of Creativity, Surroundings, and Esthetics were confirmed by the discriminant analysis and Investigative was part of the stepwise selection but did not achieve the .05 level of significance. The negative Economic Return is generally typical of the Artistic personality and the negative Surroundings may be explained by Super's (1970) explanation of the Surroundings value: "Surroundings, the material environment in which the work is done, tends to be important to people with interests which are not specifically in the work itself, but in its concomitants." To the Artistic personality, the work, the object of their efforts takes precedence over the environment.

The value of Altruism appears to be contradictory to the description provided by both Holland and Super and may be specifically a sample group characteristic. Variety does have some relationship as it does share some commonality with Creativity and Independence, both characteristics of Artistic persons.

Hypothesis 2

Hypothesis 2 states that there will be significant differences between discriminated mean work values scores (those identified in Hypothesis 1) and persons identified as being congruent or incongruent in their relationship between High Point Codes (personality type) and chosen curriculum. Therefore these discriminated work values will be subjected to a Oneway Analysis of Variance to test for significant differences by F-ratios.

Analysis of Variance is a technique for dividing the variation observed in experimental data into different parts, each part assignable to a known source, cause or factor. In its basic form the Analysis of Variance is used to test the significance of the differences between the means of a number of different samples. The test of significance is the F-ratio or comparison of the between and within group variation.

Appendix M provides a brief analysis of the congruency dichotomy composition. Distribution of the cases was decidedly in favor of the congruent-orientated individuals. However Subprogram ONEWAY is designed to accommodate unequal cell sizes in its computations. Distribution across personality typologies (HPC) was fairly even ranging from a high of 91 cases for the Social group to a low of 49 cases for the Artistic group.

Table 9 presents the Analysis of Variance results for the Realistic group on the congruency-incongruency variables. The values

Table 9

Congruent/Incongruent Analysis of Variance of Discriminated Work Values - Realistic Group

Value	Source of Variation	Sum of Squares	Degree of Freedom	Mean Squares	F
Se	Between	0.438	1	0.438	0.086
	Within	395.250	78	5.067	
	Total	395.688	79		
Cr	Between	13.660	1	13.660	2.456
	Within	433.891	78	5.563	
	Total	447.551	79		
Es	Between	4.215	1	4.215	0.591
	Within	556.176	78	7.131	
	Total	560.391	79		
IS	Between	3.031	1	3.031	1.066
	Within	221.719	78	2.843	
	Total	224.750	79		

Table 9 (continued)

Value	Source of Variation	Sum of Squares	Degree of Freedom	Mean Squares	F
As	Between	4.215	1	4.215	0.591
	Within	556.176	78	7.131	
	Total	560.391	79		
Pr	Between	32.934	1	32.934	6.923*
	Within	371.066	78	4.757	
	Total	404.000	79		
Ma	Between	18.176	1	18.176	3.725
	Within	380.625	78	4.880	
	Total	398.801	79		

* $p = .01$

presented are those that were identified as being part of the discriminant function for the Realistic group. The analysis produced the following F-ratios: Security F = .086, Creativity F = 2.456, Esthetics F = 0.591, Intellectual Stimulation F = 1.066, Associates F = 0.591, Prestige F = 6.923 and Management F = 3.725. All F values are not significant at the .05 level except Prestige which is significant at the .01 level.

Table 10 presents the discriminated values for the Investigative group. Analysis produced the following F-ratios: Way of Life F = 0.182, Economic Return F = 0.048. None of these F values were significant at the .05 level.

Table 11 presents the Social group's discriminated values. The analysis procedure calculated the following F-ratios: Way of Life F = 1.505, Security F = 0.0, Esthetics F = 0.070. A significance level of .05 was not reached for any of the F values.

The Conventional group is presented in Table 12. Upon analysis the F-ratios for the three values were: Security F = 0.0, Economic Return F = 0.025, and Esthetics F = 0.070. The F values for this group all were not significant at the .05 level.

The discriminated values of the Enterprising group is presented in Table 13. Four values were subjected to Analysis of Variance procedures and the following F-ratios were computed: Way of Life F = 0.194, Economic Return F = 0.057, Management F = 0.019, and

Table 10

Congruent/Incongruent Analysis of Variance of Discriminated Work Values - Investigative Group

Value	Source of Variation	Sum of Squares	Degree of Freedom	Mean Squares	F
WL	Between	0.637	1	0.637	0.182
	Within	297.090	85	3.496	
	Total	297.727	86		
ER	Between	0.270	1	0.270	0.048
	Within	476.652	85	5.608	
	Total	476.922	86		

Table 11

Congruent/Incongruent Analysis of Variance of Discriminated Work Values - Social Group

Value	Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F
WL	Between	4.559	1	4.558	1.505
	Within	196.848	65	3.028	
	Total	201.407	66		
Se	Between	0.0	1	0.0	0.0
	Within	316.629	65	4.871	
	Total	316.629	66		
Es	Between	0.559	1	.0559	0.070
	Within	517.356	65	7.959	
	Total	517.915	66		

Table 12

Congruent/Incongruent Analysis of Variance of Discriminated Work Values - Conventional Group

Value	Source of Variation	Sum of Squares	Degree of Freedom	Mean Squares	F
Se	Between	0.0	1	0.0	0.0
	Within	316.629	65	4.871	
	Total	316.629	66		
ER	Between	0.063	1	0.063	0.025
	Within	163.105	65	2.509	
	Total	163.168	66		
Es	Between	0.559	1	0.559	0.070
	Within	517.355	65	7.960	
	Total	517.914	66		

Table 13

Congruent/Incongruent Analysis of Variance of

Discriminated Work Values - Enterprising Group

Value	Source of Variation	Sum of Squares	Degree of Freedom	Mean Squares	F
WL	Between	0.731	1	0.731	0.194
	Within	172.938	46	3.760	
	Total	173.669	47		
ER	Between	0.383	1	0.383	0.057
	Within	310.285	46	6.745	
	Total	310.668	47		
Ma	Between	0.098	1	0.098	0.019
	Within	230.570	46	5.012	
	Total	230.668	47		
Es	Between	7.530	1	7.530	1.284
	Within	269.783	46	5.868	
	Total	277.313	47		

Esthetics $\underline{F}$ = 1.284. No significant $\underline{F}$-values were found at the .05 level.

The Artistic group is presented in Table 14. The values cited are those identified as being discriminated values with the Artistic group. The statistical analysis provided the following $\underline{F}$-ratios: Esthetics $\underline{F}$ = 5.142, Surroundings $\underline{F}$ = 1.740, Economic Return $\underline{F}$ = 1.050, Creativity $\underline{F}$ = 0.193 and Altruism $\underline{F}$ = 0.334. All of these discriminated values were not significant at the .05 level with the exception of Esthetics which was significant at the .025 level.

From the above analysis of discriminated work values and the level of congruency-incongruency of the personality type little significant relationships were found. All values were not significant at the .05 level except Prestige (p = .01) in the Realistic group and Esthetics (p = .025) in the Artistic group. Thus Hypothesis 2, that a significant difference would exist between congruent and incongruent group members for discriminated work values, was almost totally rejected, except for the two values of Prestige and Esthetics.

Hypothesis 3

Hypothesis 3 states that there will be significant differences between discriminated work values (those identified in Hypothesis 1) and persons identified as having high, middle, or low levels of consistency as identified by personality typology coding.

The statistical analysis for Hypothesis 3 remains the same as

Table 14

Congruent/Incongruent Analysis of Variance of Discriminated Work Values - Artistic Group

Value	Source of Variation	Sum of Squares	Degree of Freedom	Mean Squares	F
Es	Between	41.660	1	41.660	5.142*
	Within	607.590	75	8.101	
	Total	649.250	76		
Su	Between	10.227	1		1.740
	Within	440.762	75	5.877	
	Total	450.989	76		
ER	Between	4.934	1	4.934	1.050
	Within	352.316	75	4.698	
	Total	357.250	76		
Cr	Between	0.922	1	0.922	0.193
	Within	357.938	75	4.773	
	Total	358.860	76		

Table 14 (continued)

Value	Source of Variation	Sum of Squares	Degree of Freedom	Mean Squares	F
A1	Between	1.780	1	1.780	0.334
	Within	400.040	75	5.334	
	Total	401.820	76		

* p=.025

for Hypothesis 2, that is, Oneway Analysis of Variance to test for significant differences between group means by the previously defined F-ratio. The discriminated values being tested in this hypothesis are the same for Hypothesis 2, namely the discriminated work values described earlier.

Appendix N provides a brief analysis of the consistency trichotomy composition. As in Hypothesis 2 the distribution was decidedly skewed toward the high level of consistency or uniformity of an individual's personality pattern. The low level of consistency was quite sparse ranging from two cases in the Enterprising group to a high of 13 within the Realistic group.

For the Realistic group, the F-ratios of the discriminated values are presented in Table 15. These values were computed by Analysis of Variance and were as follows: Security $F = 0.544$, Creativity $F = 0.946$, Esthetics $F = 0.429$, Intellectual Stimulation $F = 3.594$, Associates $F = 0.429$, Prestige $F = 1.825$ and Management $F = 2.728$. The value of Intellectual Stimulation was significant at the .05 level while all other values were not significant at this level.

Table 16 presents the analysis of F-ratios for the Investigative group. The two values identified, Way of Life and Economic Return had F-ratios of 0.400 and 0.532 respectively. The F-values were not significant at the .05 level.

Table 17 presents the data for the Social group with regards to

Table 15

Consistency/Inconsistency Analysis of Variance of Discriminated Work Values - Realistic Group

Value	Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F
Se	Between	5.512	2	2.756	0.544
	Within	390.176	77	5.067	
	Total	395.688	79		
Cr	Between	10.738	2	5.369	0.946
	Within	436.813	77	5.673	
	Total	447.551	79		
Es	Between	6.176	2	3.088	0.429
	Within	554.215	77	7.198	
	Total	560.391	79		
IS	Between	19.188	2	9.594	3.594*
	Within	205.563	77	2.670	
	Total	224.751	79		

Table 15 (continued)

Value	Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F
As	Between	6.176	2	3.088	0.429
	Within	554.215	77	7.198	
	Total	560.391	79		
Pr	Between	18.313	2	9.156	1.825
	Within	335.688	77	5.009	
	Total	404.001	79		
Ma	Between	30.426	2	15.213	2.728
	Within	429.465	77	5.578	
	Total	459.891	79		

* p=.05

Table 16

Consistency/Inconsistency Analysis of Variances of Discriminated Work Values - Investigative Group

Value	Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F
WL	Between	2.809	2	1.404	0.400
	Within	294.918	84	3.511	
	Total	297.727	86		
ER	Between	5.969	2	2.984	0.532
	Within	470.953	84	5.607	
	Total	476.922	86		

Table 17

Consistency/Inconsistency Analysis of Variance of Discriminated Work Values - Social Group

Value	Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F
WL	Between	0.891	2	0.445	0.142
	Within	200.516	64	3.133	
	Total	201.407	66		
Se	Between	5.727	2	2.863	0.589
	Within	310.902	64	4.858	
	Total	316.629	66		
Es	Between	25.660	2	12.830	1.668
	Within	492.254	64	7.692	
	Total	517.914	66		

discriminated work values. The F-ratios derived from the computation were: Way of Life F = 0.142, Security F = 0.589 and Esthetics F = 1.668. No significant F-values at the .05 level were identifiable with this group.

The Conventional group's F-ratios for their discriminated values are presented in Table 18. Three values were analyzed and produced the following F-ratios: Security F = 0.589, Economic Return F = 0.839 and Esthetics F = 1.668. The .05 level of significance was not obtained for any of these values.

The Enterprising group analysis is available in Table 19 where four discriminated values were subjected to the Analysis of Variance procedure. This computation yielded F-ratios as follows: Way of Life F = 1.192, Economic Return F = 0.692, Management F = 1.005 and Esthetics F = 0.256. No significant F-values at the .05 level were found.

The last group analyzed, Artistic, is presented in Table 20. There were five discriminated values and the statistical procedure produced F-ratios as follows: Esthetics F = 0.560, Surroundings F = 0.676, Economic Return F = 0.825, Creativity F = 0.208, and Altruism F = 1.030. Again, no significant values were found at the .05 level.

For Hypothesis 3 all discriminated values assigned to the personality groups were not significant at the .05 level except Intellectual

Table 18

Consistency/Inconsistency Analysis of Variance of Discriminated Work Values - Conventional Group

Value	Source of Variation	Sum of Squares	Degree of Freedom	Mean Squares	F
Se	Between	5.727	2	2.863	0.589
	Within	310.902	64	4.858	
	Total	316.629	66		
ER	Between	4.168	2	2.084	0.839
	Within	159.000	64	2.484	
	Total	103.168	66		
Es	Between	25.660	2	12.830	1.668
	Within	492.254	64	7.692	
	Total	517.914	66		

Table 19

Consistency/Inconsistency Analysis of Variance of Discriminated Work Values - Enterprising Group

Value	Source of Variation	Sum of Squares	Degree of Freedom	Mean Squares	F
WL	Between	8.738	2	4.369	1.192
	Within	164.930	45	3.665	
	Total	173.668	47		
ER	Between	9.270	2	4.635	0.692
	Within	301.398	45	6.698	
	Total	310.668	47		
Ma	Between	7.762	2	3.881	1.005
	Within	173.719	45	3.860	
	Total	181.481	47		
Es	Between	16.263	2	8.132	0.256
	Within	261.050	45	5.801	
	Total	277.313	47		

Table 20

Consistency/Inconsistency Analysis of Variance of Discriminated Work Values - Artistic Group

Value	Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F
Es	Between	9.680	2	4.840	0.560
	Within	639.570	74	8.643	
	Total	649.250	76		
Su	Between	8.098	2	4.049	0.676
	Within	442.890	74	5.985	
	Total	450.988	76		
ER	Between	7.793	2	3.897	0.825
	Within	349.457	74	4.722	
	Total	357.250	76		
Cr	Between	2.008	2	1.004	0.208
	Within	356.852	74	4.822	
	Total	358.860	76		

Table 20 (continued)

Value	Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F
A1	Between	10.887	2	5.443	1.030
	Within	390.933	74	5.283	
	Total	401.820	76		

Stimulation (p = .05) in the Realistic group. Thus Hypothesis 3, that significant differences would exist between the means of the levels of consistency, was rejected other than for the value Intellectual Stimulation.

Summary

The results of this study as analyzed by the specified statistical procedures and presented in this chapter are as follows:

1. A relationship was established as to the significant or discriminated work values prevalent within each personality typology. Identification of and direction of effect of the discriminated work values only partially fulfilled the a priori hypothesis. Specifically the following values and the direction of effect are summarized in order of strength for each group along with the a priori hypothesis:

a. Realistic

Computed: -Security, Creativity, Esthetics, -Intellectual Stimulation, Associates, -Prestige, -Management

Hypothesized: Achievement, Economic Return, Security, Investigative

b. Investigative

Computed: -Way of Life, -Economic Return

Hypothesized: Intellectual Stimulation, Creativity, Achievement, Prestige

c. Social

Computed: -Way of Life, -Security, Esthetics

Hypothesized: Altruism, Achievement, Surroundings

d. Conventional

Computed: Security, -Economic Return, Esthetics

Hypothesized: Security, Economic Return, Surroundings

e. Enterprising

Computed: Way of Life, Economic Return, Management, -Esthetics

Hypothesized: Prestige, Economic Return, Way of Life, Altruism

f. Artistic

Computed: Esthetics, -Surroundings, -Economic Return, Creativity, Altruism

Hypothesized: Creativity, Esthetics, Investigative, Surroundings

2. There were no significant differences found between the means of congruent and incongruent individuals in each personality typologies except for Prestige in the Realistic group and Esthetics in the Artistic group.

3. There were no significant difference found between the means

of individuals designated as having high, middle or low levels of consistency within the personality typologies except for Intellectual Stimulation in the Realistic group.

Chapter 5

Summary, Conclusions and Recommendations

Chapter 5 includes a summary of the study, a review of the conclusions drawn from the data analysis and a discussion of recommendations which are deemed appropriate.

Summary

Values have served, in part, to explain the nature of man and his behavior and have made, and will continue to make him orientated towards selected life styles and goals. Work has been man's methodology for survival and it has been, only recently, that there has been freedom to explore and engage in work behavior satisfying to oneself which will also meet the basic needs of life.

The community college student, in particular, is considered to be primarily work orientated and practical with relatively short range educational preparatory goals. Thus the work values of these individuals could be considered as prime motivators in their educational and vocational progress. Although concern is expressed about the work values of these students, little has been done to define and investigate the nature of the value system.

Understanding the value system of the student in the context of his personality composition and his educational and vocational goals is important to the counselor trying to assist in goal clarification and in determining the psychological appropriateness of a given type for

employment or training. Knowing the values which motivate an individual, and having information concerning the values which are most readily realized in various work and occupational settings and roles, the counselor has an important basis for career counseling and decision making.

Research concerning work values has been broadranging but generally not definitive. Studies concerning community colleges have been sparse. Of the studies done, overall results indicate weak and conflicting relationships between value configuration and selected variables such as family status, sex, age, race and educational attainment, among others. No definite analysis has been established as to the way the value system functions and matures within the individual.

It appears that the concept of work values, in general, is viable in supporting the description of vocational behavior. As work values appear to differentiate among groups as demonstrated by the research of Super and personality and occupational characteristics appear to do likewise as evidenced by Holland's research, it seems natural to explore the relationship of the two.

This relationship is specifically directed to community college students based on their pragmatic, work-directed and vocational orientation. The relationship will investigate value orientation to personality/occupational typology and will also analyze the value relationship to certain determinants of the typology, namely the concepts

of consistency and congruency. These major relationships and characteristics lead to the conclusion that community college students need to have their work values examined and evaluated in conjunction with personality and occupational orientation.

Specifically the investigation centered around three major questions to be answered:

1. What is the general relationship of work values to different occupational orientations as they relate to personalities of community college students?

2. Does a significant difference exist with reference to discriminated work values in relation to the degree of congruency present in the personality types of community college students?

3. Does a significant difference exist with reference to discriminated work values in relation to the degree of consistency present in the personality types of community college students?

To conduct this investigation 500 students, enrolled in the Winter Quarter, 1976 of Thomas Nelson Community College in Hampton, Virginia, were randomly selected. These subjects were given a Curriculum Information Sheet, the Work Values Inventory and the Vocational Preference Inventory. Upon analysis of the gathered data a useable total of 451 subjects was finalized.

Statistical tests employed were: (a) Discriminant Analysis to determine the relationship of the work values to the personality

typologies of Holland and (b) Oneway Analysis of Variance to determine if significant differences existed between discriminated work value scores for subjects identified as congruent-incongruent and consistent-inconsistent within their personality composition. All hypotheses were tested at a .05 level of significance.

Conclusions

The conclusions of this study dealing with work values and personality typologies will be presented by individual hypothesis.

Hypothesis 1

The research hypothesis that there would be major differences in work values orientation between selected personality types as identified by mean work values scores and High Point Codes (personality groupings) was generally substantiated but not consistent with predicted or *a priori* estimates.

The Realistic group was identified by having discriminated work values of Creativity, Esthetic and Associates. They were also characterized as being negatively orientated to Security, Intellectual Stimulation, and Prestige or conversely, these latter values are indicative characteristics of non-Realistic group members. Only the value of Security was confirmed from the *a priori* listing.

The Investigative group produced discriminated values of Way of Life and Economic Return. Both these values were negatively orientated thus were characteristic of non-Investigative persons. No

positively orientated values were significant to provide characteristics of the Investigative group. None of the a priori values appeared in the significant categories, either negative or positive.

The Social group produced three values: Way of Life and Security, both negative values, and Esthetics which was positive. Thus Way of Life and Security were indicative of non-Social group members while Esthetics provided differentiation for group members. A priori values did not appear.

The Conventional group discriminated also on three values: Security and Esthetics were positively aligned while Economic Return was negatively orientated. Conventional group members then are discriminated by the value characteristic of Security and Esthetics and do not have a strong orientation to Economic Return which is the discriminant for non-Conventional group members. A priori values were confirmed for Security and Economic Return although the latter was not in the direction hypothesized.

The Enterprising group had one negative value Esthetics and three positive values: Way of Life, Economic Return and Management. The positive values provide an excellent discriminant value cluster for the group. A priori values were matched on Economic Return and Way of Life.

The last group, Artistic had two negative values: Surroundings, and Economic Return and three positive values: Esthetic, Creativity

and Altruism. A priori selections were matched on Creativity, Esthetics, and Surroundings, however Surroundings was not in the predicted direction.

Overall evaluation of the discriminated values indicated strong positive and negative directions for the following values: Way of Life, Security, Esthetics and Economic Return. Most of the personality groups had one or more of these values as one which was indicative of the group or conversely provided a characteristic for non-group members. Upon analysis three of the four areas are strongly related to the community college student by providing support to the pragmatic, realistic and vocationally-orientated concept. The value of Esthetics may be indicative of the general age and orientation of the sample population.

Hypothesis 2

The research hypothesis that there would be significant differences between discriminated mean work value scores and subjects identified as being congruent or incongruent in their relationship between High Point Code (personality type) and chosen curriculum was, in general, rejected. Of the twenty four analysis of variance computations conducted on congruent-incongruent scores only two, Prestige and Esthetics were significant. While the hypothesis as a whole has been rejected it does lend support to Holland's theory in that the concept

congruency is based on the relationship of personality orientation to environment, or as defined in this study, chosen curricula. Thus a person may be a strong Realistic group member but may, for many reasons, be in non-related curriculum. The fact that the individual is in the wrong curriculum does not necessarily affect the strength of his group membership. It has been demonstrated by the non-significance levels that scores from congruent and non-congruent members are fairly equal. This would confirm consistent group membership, either congruent or non-congruent, but the analysis does not discriminate the incongruency of curricula choice with personality typology.

Hypothesis 3

The research hypothesis that there would be significant differences between discriminated mean work value scores and high, middle, and low levels of consistency as identified by personality typology coding was also, in general, rejected. Only one value, Intellectual Stimulation, of the twenty four tested relationships was significant at the .05 level. The level of consistency is determined by the uniformity of an individual's scores on the VPI. Primarily the uniformity is derived by a combination of the HPC and the next highest score of the first six scales. This relationship is then placed into one of three categories based on research analysis by Holland. For Hypothesis 3 only one significant difference was found between these levels when testing

for value difference. The data does not support Holland's differentiation of levels when testing on the variable of value orientation. Several reasons could be causative for the results. First the scores of the WVI have a raw score range of three to fifteen, thus offering relatively little variability to the distribution of the scores, second, was the extremely low sample size in some of the cells for the consistency level. This contributed to the computational difficulties for significant analysis. Third was the preponderance of scores in the high level of consistency as compared to the other two groups.

Recommendations

Based on the results of this study, several recommendations are made for further research which may contribute to further knowledge.

1. It is recommended that this study be replicated utilizing a larger sample to allow a more equitable distribution of cells. While the sample was totally random from the community college population it nevertheless was not equitably distributed to allow greater accuracy of statistical application.

2. It is further recommended, that if sample size permits, to covary the statistical procedures for sex differences. Subjective evaluation of mean scores seems to indicate possible differences however empty cells in the data prevented this procedure.

3. It is further recommended that the study be replicated on known populations. For example all graduates of the Commercial

Arts curriculum could be inventoried and values analyzed based on the knowledge that the sample should be relatively pure for Artistic orientation because of the selectivity process of educational training leading to graduation.

4. It is further recommended that additional investigation be made to more specifically define the value of the raw score for the WVI. Perhaps a reassignment of scoring weights or the use of percentiles would allow greater variability thus greater sensitivity of differences in scores for analysis to determine work value orientations.

5. It is finally recommended that the analysis of the relationship of work values to personality types be replicated at other community colleges to further the knowledge of this orientation.

Appendix

Appendix A

Work Values Inventory Scales

(Cr), Creativity: a value associated with work which permits one to invent new things, design new products, or develop new ideas.

(Ma), Management: associated with work which permits one to plan and lay out work for others to do.

(Ac), Achievement: a value associated with work which gives one a feeling of accomplishment in doing a job well.

(Su), Surroundings: a value associated with work which is carried out under pleasant conditions.

(SR), Supervisory Relations: a value associated with work which is carried out under a supervisor who is fair and with whom one can get along.

(WL), Way of Life: associated with the kind of work that permits one to live the kind of life he chooses and to be the type of person he wishes to be.

(Se), Security: associated with work which provides one with a certainty of having a job even in hard times.

(As), Associates: a value characterized by work which brings one into contact with fellow workers whom he likes.

(Es), Esthetic: a value inherent in work which permits one to make beautiful things and to contribute beauty to the world.

(Pr), Prestige: associated with work which gives one standing in the eyes of others and evokes respect.

(In), Independence: associated with work which permits one to work in his own way, as fast or as slowly as he wishes.

(Va), Variety: associated with work that provides an opportunity to do different types of jobs.

(ER), Economic Returns: a value or goal associated with work which pays well and enables one to have the things he wants.

(Al), Altruism: a work value present in work which enables one to contribute to the welfare of others.

(IS), Intellectual Stimulation: associated with work which provides opportunity for independent thinking and for learning how and why things work.

Appendix B

Holland's Six Personality Types

Realistic

Extreme examples here are rugged, robust, practical, physically strong, and frequently aggressive in outlook; such people usually have good physical skills, but sometimes have trouble expressing themselves in words or in communicating their feelings to others. They like to work outdoors, and they like to work with tools, especially large powerful machines. They prefer to deal with things rather than with ideas or with people. They generally have conventional political and economic opinions, and are usually cool to radical new ideas. They enjoy creating things with their hands and prefer occupations such as mechanic, construction work, fish and wildlife management, laboratory technicians, some engineering specialties, some military jobs, agriculture, or the skilled trades.

Investigative

This type tends to center around science and scientific activities. The extremes of this type are task orientated; they are not particularly interested in working around other people. They enjoy solving abstract problems and have a great need to understand the physical world. They prefer to think through problems rather than act them out. Such people enjoy ambiguous challenges and do not like highly structured situations with many rules. They frequently have

unconventional values and attitudes and tend to be original and creative, especially in scientific areas. They prefer occupations such as design engineer, biologist, social scientist, research lab worker, physicist, technical writer, or meteorologist.

Social

The pure types here are sociable, responsible, humanistic, and concerned with the welfare of others. They usually express themselves well and get along well with others; they like attention and seek situations allowing them to be at or near the center of the group. They prefer to solve problems by discussions with others, or by arranging or rearranging relationships between others; they have little interest in situations requiring physical exertion or working with machinery. Such people describe themselves as cheerful, popular, achieving, and good leaders. They prefer occupations such as school superintendent, clinical psychologist, high school teacher, marriage counselor, playground director, speech therapist, or vocational counselor.

Conventional

Extremes of this type prefer the highly ordered activities, both verbal and numerical, that characterize office work. They fit well into large organizations but do not seek leadership; they respond to power and are comfortable working in a well established chain of command. They dislike ambiguous situations, preferring to know

precisely what is expected of them. Such people describe themselves as conventional, stable, well-controlled, and dependable. They have little interest in problems requiring physical skills or intense relationships with others, and are most effective as well-defined tasks. Like the enterprising type, they value material possessions and status. Vocational preferences are mostly within the business world, and include bank examiner, bank teller, bookkeeper, some accounting jobs, financial analyst, computer operator, inventory controller, tax expert, statistician, and traffic manager.

Enterprising

The extreme types here have a great facility with words, which they put to effective use in selling, dominating, and leading; frequently they are in sales work. They see themselves as energetic, enthusiastic, adventurous, self-confident, and dominant, and they prefer social tasks where they can assume leadership. They enjoy persuading others to their viewpoints. They are impatient with precise work or work involving long periods of intellectual effort. They like power, status, and material wealth, and enjoy working in expensive settings. Vocational preferences include business executive, buyer, hotel manager, industrial relations consultant, political campaigner, realtor, many kinds of sales work, sports promoter, and television producer.

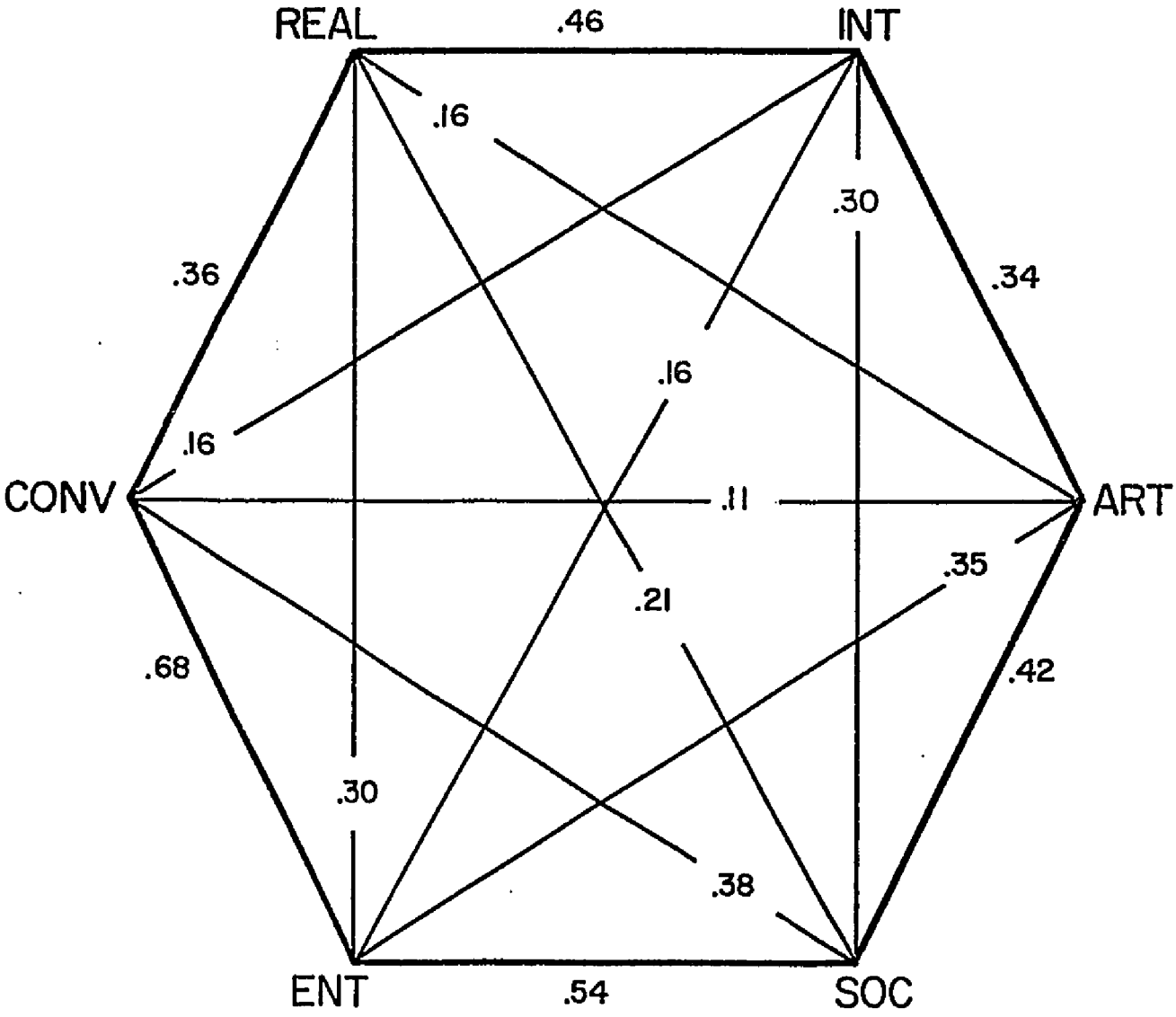
Artistic

The extreme type here is artistically oriented, and likes to work in artistic settings where there are many opportunities for self-expression. Such people have little interest in problems that are highly structured or require gross physical strength, preferring those that can be dealt with through self-expression in artistic media. They resemble investigative types in preferring to work alone, but have a greater need for individualistic expression, are usually less assertive about their own opinions and capabilities, and are more sensitive and emotional. They score higher on measures of originality than any of the other types. They describe themselves as independent, original, unconventional, expressive, and tense. Vocational choices include artist, author, cartoonist, composer, singer, dramatic coach, poet, actor or actress, and symphony conductor.

Adapted from Making Vocational Choices: A Theory of Careers, (pp. 14-18), by John Holland. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1973.

Appendix C

A Hexagonal Model for Defining the Psychological Resemblances Among Types and Environments and Their Interactions



Source: Holland, J.L., Whitney, D.R., Cole, N.S., & Richards, J.M. An empirical occupational classification derived from a theory of personality and intended for practice and research. ACT Research Report No. 29. Iowa City: The American College Testing Program, 1969.

Appendix D

Letter To Participants

Thomas Nelson Community College
P. O. Box 9407 • Hampton, Virginia 23670
Phone (804) 826-4800

Dear

Thomas Nelson Community College is presently involved in a study investigating the variables of curriculum choice and change. Specific to the investigation is an analysis of work values and their relationship to certain curricula areas.

Your name has been randomly selected to participate in this study which will require only a few minutes of your time. It is extremely important and vital to the results of the study that we have your cooperation to participate. The maintaining of the random sample, of which you are a part, is very critical.

The study will consist of a one time meeting of 30-35 minutes duration. During this time you will be asked to fill out a short questionnaire and complete two inventories, one dealing with work values, the other with work or curricula types. This will conclude your participation.

Please report to Room 100, Dudley Diggs Hall, at 6:00 p.m. on _____ _____, 1976. While this may be a difficult hour, it will still allow students to arrive at their 7:00 p.m. classes on time. Should you have an unavoidable conflict report to the Placement Office, Room 214, Corbin Griffin Hall (826-4800 X254) as soon as possible.

Please remember, your participation in this study is vital and all information provided is strictly confidential. Thank you for your cooperation.

Sincerely,

Thomas C. Barrett, EdD
Dean of Student Services

Appendix E

Curriculum Information Sheet

Date_____ Control No._____

Please do not begin until instructions have been given.

Thank you for participating in this exercise. You will be asked to complete three sets of questions and a release form during the next thirty minutes. It is very important that you answer the questions as honestly as you can. Remember that your answers will be treated in a confidential manner and you will be identified only as a code. Please fill out the questions below and sign the attached release sheet. Further instructions will be given for the other two sections. Please place the correct answer code in the block on the left.

☐ 1. What is your present school status? 1. Full time 2. Part time

2. Curriculum in which currently enrolled_____.

☐ 3. Have you changed curriculums since being enrolled at TNCC? (Do not count Developmental Studies as a change)
1. Yes 2. No

4. If #3 is yes what curriculum(s) did you change from _____?

☐ 5. Sex: 1. Female 2. Male

☐ 6. Age: 1. 16-20 2. 21-25 3. 26-30 4. 31-35 5. 36-40 6. 41-45 7. 46-50 8. 51-55 9. 55+

☐ 7. Marital Status: 1. Single 2. Married 3. Divorced 4. Widowed

☐ 8. Military Status: 1. Prior Service 2. Retiree 3. Currently on Active Duty 4. No military service.

☐ 9. Race: 1. Afro-American 2. American-Indian 3. Caucasian 4. Oriental 5. Spanish Surnamed 6. Other

10. How many academic quarters have you completed at TNCC?

11. How many credit hours have you completed at TNCC?

12. Last known grade point average (GPA)?

13. Are you currently employed? 1. Yes 2. No

14. If #13 is yes are you employed 1. Part time 2. Full time

15. How many years of full time work experience do you currently have?

16. Are you currently satisfied with your curriculum choice? 1. Yes 2. No

17. What has been your major purpose for attending TNCC? (Select one answer only)

    1. Have been preparing for a specific job in the local area.
    2. Have been obtaining general preparation for employment.
    3. Have been preparing for transfer to a four-year college.
    4. Have been trying to increase my general knowledge and level of education.

18. What is your most important goal in attending TNCC? (Select only one response)

    1. To learn to enjoy life.
    2. To develop my mind and intellectual capabilities.
    3. To secure vocational or professional training.
    4. To make a desirable marriage.
    5. To earn a higher income.
    6. To become a cultured person.
    7. To develop my personality.
    8. To develop a satisfying philosophy.
    9. None of these

Appendix F

Permission Sheet for Records Access

I understand that the information provided by me for this study will be maintained in the strictest confidential manner and that at no time will the information be utilized in an individualized data format. I also authorize the Placement Officer access to my academic records for the purpose of this investigation.

Signature_____

Printed Name_____

Appendix G

Realistic High Point Code Group. Statistical

Analysis of Work Value Scores

Values	Female(n=6)		Male(n=74)		Total(n=80)	
	M	SD	M	SD	M	SD
Cr	11.67	2.50	11.30	2.39	11.33	2.38
Ma	10.00	1.10	9.50	2.49	9.54	2.41
Ac	13.33	2.25	12.76	2.26	12.80	2.25
Su	12.83	1.17	11.34	2.56	11.45	2.51
SR	13.67	1.03	12.36	2.58	12.46	2.51
WL	13.67	1.97	13.05	2.07	13.10	2.06
Se	12.67	1.63	12.42	2.29	12.48	2.24
As	10.00	.89	10.20	1.99	10.19	1.94
Es	8.00	1.79	8.99	2.72	8.91	2.66
Pr	10.50	2.59	11.04	2.25	11.00	2.26
In	10.67	1.51	11.47	2.33	11.41	2.28
Va	11.83	1.84	11.07	2.31	11.12	2.47
ER	12.83	1.33	12.76	2.50	12.76	2.43
Al	13.17	1.72	11.60	2.46	11.71	2.44
IS	12.83	1.47	12.34	1.71	12.38	1.69

Appendix H

Investigative High Point Code Group. Statistical Analysis of Work Value Scores

Values	Female(n=23)		Male(n=64)		Total(n=87)	
	M	SD	M	SD	M	SD
Cr	11.52	2.43	12.81	1.93	12.47	2.13
Ma	8.74	3.17	9.83	2.31	9.54	2.59
Ac	13.44	1.83	13.60	1.55	13.55	1.62
Su	11.49	2.10	11.66	2.18	11.61	2.13
SR	12.70	2.51	12.42	2.75	12.49	2.68
WL	13.52	2.35	13.47	1.67	13.48	1.86
Se	11.35	3.26	12.01	3.02	11.84	3.08
As	9.39	.99	10.00	2.13	9.84	1.91
Es	8.26	2.77	9.48	2.92	9.16	2.92
Pr	10.74	2.16	11.00	2.05	10.93	2.06
In	10.74	2.77	12.38	2.02	11.94	2.34
Va	11.17	2.42	12.25	12.09	11.97	2.22
ER	11.65	2.35	12.94	2.28	12.60	2.36
Al	12.39	2.59	11.75	2.75	11.92	2.71
IS	11.91	2.79	12.83	1.75	12.57	2.10

Appendix I

Social High Point Code Group. Statistical

Analysis of Work Value Scores

Values	Female(n=68)		Male(n=23)		Total(n=91)	
	M	SD	M	SD	M	SD
Cr	11.63	1.98	12.04	2.12	11.74	2.01
Ma	9.09	1.91	10.39	2.57	9.42	2.16
Ac	13.99	1.25	13.65	1.34	13.90	1.27
Su	12.38	2.32	12.70	1.89	12.46	4.90
SR	13.16	2.13	12.74	1.74	13.05	2.04
WL	13.35	1.90	13.70	1.49	13.44	1.80
Se	12.52	2.52	12.96	2.60	12.63	2.54
As	10.22	2.04	11.26	2.01	10.48	2.07
Es	8.75	2.71	9.30	2.46	8.89	2.67
Pr	11.04	2.40	11.49	1.68	11.16	2.24
In	11.03	2.04	11.65	1.58	11.19	1.94
Va	11.07	2.37	11.61	1.75	11.21	2.23
ER	12.29	2.26	13.17	1.95	12.52	2.21
Al	14.16	1.46	13.43	1.47	13.99	1.49
IS	12.38	1.58	12.52	1.93	12.42	1.67

Appendix J

Conventional High Point Code Group. Statistical Analysis of Work Value Scores

Values	Female(n=37)		Male(n=30)		Total(n=67)	
	M	SD	M	SD	M	SD
Cr	11.08	2.01	11.73	2.36	11.37	2.18
Ma	8.07	2.05	10.20	2.07	9.37	2.18
Ac	13.84	1.64	13.60	1.73	13.73	1.68
Su	12.32	2.06	11.90	2.11	12.13	2.07
SR	13.27	2.10	13.23	1.61	13.25	1.89
WL	13.65	1.58	13.00	1.91	13.36	1.75
Se	12.76	2.23	13.13	2.16	12.93	2.19
As	11.14	2.08	10.30	1.39	10.21	1.80
Es	8.59	2.86	8.63	2.77	8.61	2.80
Pr	11.49	1.79	11.47	2.01	11.48	1.88
In	11.19	2.21	11.37	1.99	11.27	2.10
Va	11.41	1.98	11.23	2.18	11.33	2.06
ER	13.19	1.56	13.37	1.61	13.27	1.57
Al	12.59	1.96	12.30	2.20	12.46	2.06
IS	12.38	1.67	12.50	1.99	12.43	1.80

Appendix K

Enterprising High Point Code Group. Statistical Analysis of Work Value Scores

Values	Female(n=14)		Male(n=35)		Total(n=49)	
	M	SD	M	SD	M	SD
Cr	11.21	1.93	12.06	2.03	11.82	2.02
Ma	9.71	1.73	11.06	2.26	10.67	2.19
Ac	13.50	1.29	13.14	2.17	13.25	1.95
Su	12.50	1.91	11.75	2.20	11.96	2.13
SR	14.21	1.19	12.57	2.45	13.04	2.28
WL	13.71	1.44	13.29	2.07	13.41	1.90
Se	12.36	2.71	12.03	3.09	12.12	2.96
As	10.29	1.90	10.43	2.02	10.39	1.97
Es	8.64	2.87	8.89	2.23	8.87	2.40
Pr	10.71	2.59	11.80	2.48	11.49	2.53
In	12.00	2.11	12.46	1.96	12.37	1.99
Va	11.93	2.20	11.49	1.92	11.61	1.99
ER	13.36	1.91	12.40	2.74	12.67	2.55
Al	11.64	2.13	12.03	2.35	11.92	2.27
IS	12.07	1.44	12.23	2.29	12.18	2.07

Appendix L

Artistic High Point Code Group. Statistical Analysis of Work Value Scores

Values	Female(n=46)		Male(n=31)		Total(n=77)	
	M	SD	M	SD	M	SD
Cr	12.72	2.03	12.00	2.34	12.43	2.17
Ma	8.91	2.67	9.55	2.13	9.19	2.47
Ac	13.61	1.56	13.07	2.19	13.39	1.84
Su	11.87	2.17	11.10	2.76	11.56	2.44
SR	13.41	2.09	12.97	2.36	13.23	2.20
WL	13.70	1.48	12.77	2.85	13.32	2.17
Se	12.07	2.96	12.52	2.39	12.25	2.74
As	10.89	2.39	9.61	2.09	10.38	2.35
Es	10.94	2.97	11.55	2.89	10.78	2.92
Pr	11.35	2.34	10.71	1.99	11.09	2.24
In	12.50	1.67	12.00	2.39	12.30	1.99
Va	12.13	1.60	11.03	2.85	11.69	2.24
ER	12.37	2.10	12.00	2.28	12.22	2.17
Al	13.02	1.90	12.07	2.72	12.65	2.30
IS	12.48	1.96	12.29	1.85	12.40	1.91

Appendix M

Analysis of Congruency Dichotomy for

High Point Code Groups

HPC (n=451)		Level of Congruency: Congruent	Incongruent	Total
Realistic	(n)	63	17	80
	(pct)	78.8	21.3	17.7
Investigative	(n)	59	28	87
	(pct)	67.8	32.2	19.3
Social	(n)	64	27	91
	(pct)	70.3	22.1	20.2
Conventional	(n)	55	12	67
	(pct)	82.1	17.9	14.9
Enterprising	(n)	34	15	49
	(pct)	69.4	30.6	10.9
Artistic	(n)	54	23	77
	(pct)	70.1	29.9	17.1

Appendix N

Analysis of Consistency Trichotomy for

High Point Code Groups

HPC (n=451)		Level of Consistency			
		High	Middle	Low	Total
Realistic	(n)	42	25	13	80
	(pct)	52.5	31.3	16.3	17.7
Investigative	(n)	53	22	12	87
	(pct)	60.9	25.3	13.8	19.3
Social	(n)	39	45	7	91
	(pct)	42.9	49.5	7.7	20.2
Conventional	(n)	36	25	6	67
	(pct)	53.7	37.3	9.0	14.9
Enterprising	(n)	24	23	2	49
	(pct)	49.0	46.9	4.1	10.9
Artistic	(n)	52	22	3	77
	(pct)	67.5	28.6	3.9	17.1

References

References

Abe, C., & Holland, J.L. A description of college freshman: I. Students with different vocational choices. ACT Research Report No. 3. Iowa City: The American College Testing Program, 1965.

Allport, G. Becoming. New Haven: Yale Press, 1955.

Anderson, A.S. The relationship between personal and interpersonal values of junior college students and type of program selected. Unpublished doctoral dissertation, Northern Illinois University, 1972.

Andrews, H.A. Personality patterns and vocational choice: A test of Holland's theory with part-time community college students. Unpublished doctoral dissertation, University of Missouri, Columbia, 1971.

Astin, A.W., & Nichols, R.C. Life goals and vocational choice. Journal of Applied Psychology, 1964, 48, 50-58.

Astin, A.W., King, M.R., Light, J.M., & Richardson, G.T. The American freshman: National norms for fall, 1973. Los Angeles: American Council on Education, University of California, 1973.

Baird, L.L. The relation of vocational interests to life goals, self-rating of ability and personality traits and potential for achievement. Journal of Counseling Psychology, 1970, 17, 233-239.

Bitney, R.H. An analysis of occupational choice and selected personality characteristics. Unpublished doctoral dissertation, Washington State University, 1975.

Borow, H., & Hendrix, V.L. Environmental differentials of occupational programs and educational career patterns in public junior college. Department of Educational Administration, Minnesota University, 1974. (ED 105-910).

Branden, N. The psychology of self-esteem. Los Angeles: Nash Publishing Corp., 1969.

Buchanan, B.F. The relationship of work values and vocational interest of Afro-American and Caucasian generic baccalaureate nursing students in selected colleges in the Washington metropolitan area. Unpublished doctoral dissertation, The Catholic University of America, 1974.

Buehler, C. Der menschliche Lebenslau als psychologiches problem. Leipzig: Hirzel, 1933.

Buros, O.E. (Ed.). The seventh mental measurement yearbook. Highland Park, N.J.: Gryphon Press, 1972.

Campbell, D.P. Handbook for the Strong vocational interest blank. Stanford, Calif.: Stanford University Press, 1971.

Centers, R. Motivational aspects of occupational stratification. Journal of Social Psychology, 1948, 28, 187-217.

Centers, R. Psychology of social class. Princeton: Princeton University Press, 1949.

Centers, R., & Bugental, D. Intrinsic and extrinsic job motivations among different segments of the working population. Journal of Applied Psychology, 1966, 50, 193-197.

Combs, A.W., & Snygg, D. Individual behavior: A perceptual approach to behavior. New York: Harper and Row, 1959.

Coopersmith, S. The antecedents of self-esteem. San Francisco: Freeman, 1967.

Darley, J.G., & Hagenah, T. Vocational interest measurement: Theory and practice. Minneapolis, Minn.: University of Minnesota Press, 1955.

Davis, J.A. Undergraduate Career Decisions. Chicago: Aldenes Publishing Co., 1965.

Dempsey, D.G. Academic achievement and course satisfaction: A test of Holland's theory of vocational choice. Unpublished doctoral dissertation, University of North Carolina at Chapel Hill, 1972.

Dipboye, W.S., & Anderson, W.F. The ordering of occupational values by high school freshman and seniors. Personnel and Guidance Journal, 1959, 38, 121-124.

Dukes, W.I. Psychological studies of values. Psychological Bulletin, 1955, 52(1), 24-50.

Edwards, K.J., Nafziger, D.H., & Holland, J.L. Differentions of occupational perceptions among different age groups. Journal of Vocational Behavior, 1974, 4(3), 311-318.

Fenner, J.B. The development of the Ohio work values inventory: An investigation of internal characteristics. Unpublished doctoral dissertation, Ohio University, 1972.

Florence, J.W. A further investigation of Holland's theory of vocational psychology. Unpublished doctoral dissertation, University of Tulsa, 1973.

Folsom, C.H. An investigation of Holland's theory of vocational choice. Journal of Counseling Psychology, 1969, 16, 260-266.

Fretz, B.R. Occupational values as discriminants of preprofessional student groups. Journal of Vocational Behavior, 1972, 2, 233-237.

Friedlander, F. Underlying sources of job satisfaction. Journal of Applied Psychology, 1963, 47, 246-250.

Fryer, D. The measurement of interests. New York: Columbia University Press, 1931.

Gable, R.K. Test review. Journal of Counseling Psychology, 1972, 19(6), 565-568.

Gable, R.K. The effect of scale modifications on the factorial dimensions and reliability of Super's work values inventory. Journal of Vocational Behavior, 1973, 3, 303-322.

Gable, R.K., & Pruzek, R.M. Super's work values inventory: Two multivariate studies of interitem relationships. The Journal of Experimental Education, 1971, 40(1), 41-50.

Ginzberg, E., Ginsburg, S.W., Axelrad, S., & Herma, J. Occupational choice. New York: Columbia University Press, 1951.

Gordon, R.D. A study of community college nursing student values. Unpublished doctoral dissertation, Arizona State University, 1975.

Grace, J.C. Work values of community college students: An exploratory investigation of freshman at Middlesex Community College, Bedford, Massachusetts. Unpublished doctoral dissertation, Boston College, 1974.

Gross, L.J., & Gaier, E.L. College major and career choice: A retest of Holland's theory. Journal of Vocational Behavior, 1974, 5(2), 209-213.

Guilford, J.P., Christensen, P.R., Bond, N.A., & Sutton, M.A. A factor analysis study of human behavior. Psychological Monographs, 1954, 68(4), (Whole No. 375).

Hammond, M. Occupational attitude rating scales. Personnel and Guidance Journal, 1954, 32, 470-474.

Hana, A.M. Work values in relation to age, intelligence, socio-economic level, and occupational interest level. Unpublished doctoral dissertation, Teacher's College, Columbia University, 1954.

Harvey, D.W. The validity of Holland's vocational preference inventory for adult women. Unpublished doctoral dissertation, University of Connecticut, 1971.

Hendrix, V.L., & Super, D.L. Factor dimensions and reliability of the work values inventory. Vocational Guidance Quarterly, 1968, 16, 269-274.

Herr, E.L., & Cramer, S.H. Vocational guidance and career development in the schools. Boston: Houghton Mifflin, 1972.

Hershenson, D.B. Life-stage vocational development system. Journal of Counseling Psychology, 1968, 15, 23-30.

Herzberg, F., Mausner, G., & Snyderman, P.D. The motivation to work. New York: Wiley, 1959.

Holland, J.L. A personality inventory employing occupational titles. Journal of Applied Psychology, 1958, 42, 336-342.

Holland, J.L. A theory of vocational choice. Journal of Counseling Psychology, 1959, 6, 35-45.

Holland, J.L. The relation of the vocational preference inventory to the sixteen personality factor questionnaire. Journal of Applied Psychology, 1960, 44, 291-296.

Holland, J.L. Some explorations of a theory of vocational choice: I. One and two-year longitudinal studies. Psychological Monographs, 1962, 76, No. 26.

Holland, J.L. Explorations of a theory of vocational choice and achievement: II. A four-year prediction study. Psychological Reports, 1963, 12, 547-594.

Holland, J.L. Explorations of a theory of vocational choice: IV. Vocational preferences and their relation to occupational images, daydreams and personality. Vocational Guidance Quarterly, published in four parts in Summer, Autumn and Winter issues, 1963-1964.

Holland, J.L. Explorations of a theory of vocational choice: V. A one-year prediction study. Moravia, N.Y.: Chronical Guidance Professional Service, 1964.

Holland, J.L. Manual: Vocational preference inventory (6th rev.), Palo Alto, Calif.: Consulting Psychologists Press, 1965.

Holland, J.L. The Psychology of Vocational Choice. Waltham, Mass.: Blaisdell, 1966.

Holland, J.L. Explorations of a theory of vocational choice: VI. A longitudinal study using a sample of typical college students. Journal of Applied Psychology, 1968, 52, 1-37.

Holland, J.L. Making vocational choices: A theory of careers. Englewood Cliffs, N.J.: Prentice-Hall, 1973.

Holland, J.L., & Astin, A.W. The prediction of the academic, artistic, scientific and social achievement of undergraduates of superior scholastic aptitude. Journal of Educational Psychology, 1962, 53, 132-143.

Holland, J.L., & Lutz, S.W. The predictive value of a student's choice of vocation. Personnel and Guidance Journal, 1968, 46(5), 428-436.

Holland, J.L., & Nichols, R.C. Exploration of a theory of vocational choice: III. A longitudinal study of changes in major field of study. Personnel and Guidance Journal, 1964, 43, 235-242.

Holland, J.L., Whitney, D.R., Cole, N.S., and Richards, J.M. An empirical occupational classification derived from a theory of personality and intended for practice and research. ACT Research Report No. 29. Iowa City: The American College Testing Program, 1969.

Hollander, E.P. Principles and methods of social psychology. New York: Oxford University Press, 1967.

Hoppock, R. Job satisfaction. New York: Harper Bros., 1935.

Horowitz, J.L., et al. Correlates of black and white university student grades beyond the freshman year. College Park, Md.: Cultural Study Center, University of Maryland, 1972, (ED 071 557).

Hoyt, K.B., Evan, R.N., Mackin, E.F., & Mangum, G.L. Career education: What it is and how to do it. (2nd ed.). Salt Lake City, Utah: Olympus Publishing Co., 1974.

Ivey, S.E. Interests and work values. Vocational Guidance Quarterly, 1963, 7, 121-124.

James, W. Principles of psychology (2 vols.). New York: Holt, 1890.

Johnson, B.L. An investigation of occupational values held by a group of rural northern New Mexico senior high school students. Unpublished doctoral dissertation, University of New Mexico, 1970.

Johnson, D.M. An investigation of Holland's theory of vocational choice. Unpublished doctoral dissertation, University of New Mexico, 1971.

Jones, S.A. Work values as related to certain demographic characteristics of selected North Carolina community college students. Unpublished doctoral dissertation, North Carolina University at Raleigh, 1974.

Jurgensen, C.E. Selected factors which influence job performance. Journal of Applied Psychology, 1947, 31, 553-564.

Katz, M. Decisions and values: A rationale for secondary school guidance. New York: College Entrance Examination Board, 1963.

Kerlinger, F. Foundations of behavioral research. New York: Holt, Rinehart and Winston, Inc., 1973.

Kinnane, J.F., & Bannon, M.M. Perceived parental influence and work value orientation. Personnel and Guidance Journal, 1964, 43, 273-279.

Kinnane, J.F., & Graubinger, J.R. Life values and work values. Journal of Counseling Psychology, 1963, 10, 362-367.

Kinnane, J.F., & Pable, M.W. Family background and work value orientation. Journal of Counseling Psychology, 1962, 9, 320-325.

Kinnane, J.F., & Suziedelis, A. Work value orientation and inventoried interests. Journal of Counseling Psychology, 1962, 9, 144-147.

Kluckhohn, F. Value orientations. In Toward a unified theory of behavior. R. Roy, (Ed.). New York: Basic Books, Inc., 1956.

Ko, J. An investigation of the use of Holland's career choice typology for educational grouping. Unpublished doctoral dissertation, Rutgers University, 1972.

Krause, D.A. A study of work values as they relate to Holland's six personal orientations. Columbia College of Education: Missouri University, 1970. (ED 046 323).

Kremen, B. No pride in this dust. Dissent, (Winter 1972).

Lombardi, R.A. Are community college students with majors congruent with the Holland vocational typologies more persistent in their pursuit of educational goals. Unpublished doctoral dissertation, University of Southern California, 1973.

Lucy, W.T. A study designed to test the validity of selected formulations from John Holland's theory of vocational choice. Unpublished doctoral dissertation, University of Maine, 1971.

Lucy, W.T. The stability of Holland's personality type over time. Journal of College Student Personnel, 1976, 17(1), 76-79.

MacArthur, C. Personality differences between middle and upper classes. Journal of Abnormal and Social Psychology, 1955, 6, 302-308.

McArdle, H.R. Work values of Hawaii public high school seniors. Unpublished doctoral dissertation, The University of New Mexico, 1972.

McCarthy, M.M. An exploration into the measured work values of counselors, the measured work values of their eleventh grade clients, and the counselor's perceptions of their clients' measured work values in suburban public high schools. Unpublished doctoral dissertation, Boston College, 1972.

Meyerson, M. Beyond the protestant ethic. The Humanist, 1971, 31, 19-20.

Miller, C.H. Occupational choice and values. Personnel and Guidance Journal, 1956, 35, 244-246.

Miller, M.F. Relationship of vocational maturity to work values. Journal of Vocational Behavior, 1974, 5(3), 367-371.

Morrow, J.M. A test of Holland's theory of vocational choice. Journal of Counseling Psychology, 1971, 18(5), 422-425.

Nichols, R.C., & Holland, J.L. Prediction of the first year college performance of high aptitude students. Psychological Monographs, 1963, 77, No. 7.

Nie, N.H., Hull, C.H., Jenkins, J.G., Steinbrenner, K., & Bent, D.H. Statistical package for the social science, (2nd ed.). New York: McGraw-Hill Book Company, 1975.

Normile, R.H. Differentiating among known occupational groups by means of the Work Values Inventory. Unpublished doctoral dissertation, The Catholic University of America, 1967.

O'Banion, T., & Thurston, A. (Eds.). Student development programs in the community junior college. Englewood Cliffs, N.J.: Prentice-Hall, 1972.

O'Connor, J.P., & Kinnane, J.F. A factor analysis of work values. Journal of Counseling Psychology, 1961, 8, 263-267.

O'Hara, R.P., & Tiedeman, D.V. Vocational self-concept in adolescence. Journal of Counseling Psychology, 1959, 6, 292-301.

Osipow, S.H., Ashby, J.D., & Wall, H.W. Personality types and vocational choice: A test of Holland's theory. Personnel and Guidance Journal, 1966, 45, 37-42.

Paine, F.T., Deursett, D.R., & Smith, R.A. Relationship between family backgrounds and work values. Journal of Applied Psychology, 1967, 51(4), 320-323.

Pallone, N.J., Rickard, F.S., Hurley, R.B., & Tirman, R.J. Work values and self-meaning. Journal of Counseling Psychology, 1970, 17(4), 376-377.

Peck, I.D. A test of Holland's theory: Personality type and vocational choice with community college students. Unpublished doctoral dissertation, University of Oregon, 1970.

Perrone, P.A. Values and occupational preferences of junior high school girls. Personnel and Guidance Journal, 1965, 44, 253-257.

Rand, A. The virtue of selfishness. New York: New American Library, 1964.

Richardson, M.S. The dimensions of career and work orientation in college women. Journal of Vocational Behavior, 1974, 5(1), 161-172.

Roe, A. The psychology of careers. New York: John Wiley & Sons, 1956.

Rogers, C.R. Counseling and psychotherapy. Boston: Houghton Mifflin, 1942.

Rose, A. Sociology and the Study of values. British Journal of Sociology, 1956, 7, 3-12.

Rosenberg, M. Occupations and values. Glencoe, Ill.: The Free Press, 1957.

Salomone, P.R., & Shrey, D.E. The vocational choice process of non-professional workers: A review of Holland's theory and the sociological theories. Washington, D.C.: National Institution of Education, 1973. (ED 090 480).

Scharzweller, H.L. Value orientations and educational and occupational choices. Rural Sociology, 1959, 24, 246-256.

Scharzweller, H.L. Value orientations and educational and occupational choice. Social Forces, 1960, 30, 126-135.

Schutz, R.A., & Blocher, D.H. Self-satisfaction and level of occupational choice. Personnel and Guidance Journal, 1961, 39, 595-598.

Searle, R.R. A study of the stability of vocational values as measured by the Vocational Values Inventory. Unpublished doctoral dissertation, Michigan State University, 1962.

Self, P.A. Self-concept, attitudes, and values of women honor students. Unpublished doctoral dissertation, Texas A & M University, 1973.

Singer, S.L., & Stefflre, B. Age differences in job values and desires. Personnel and Guidance Journal, 1954, 32, 483-583, a.

Singer, S.L., & Stefflre, B. Age difference in job values and desires to vocational aspirations of adolescents. Journal of Applied Psychology, 1954, 38, 419-422, b.

Spaeth, J.L. Value orientations and academic career plans. Unpublished doctoral dissertation, University of Chicago, 1961.

Spranger, E. Types of men. Translated from the 5th German edition of Lebenformen by Paul J.W. Pigors. Halle: Max Nuemeyer Verlag, 1928.

Stahman, R.F. Test review. Journal of Counseling Psychology, 1972, 19(1), 85-86.

Sternberg, C. The relation of interests, values and personality to the major field of study in college. Unpublished doctoral dissertation, New York University, 1953.

Super, D.E. Appraising vocational fitness. New York: Harper, and Row, 1949.

Super, D.E. Vocational adjustment: Implementing a self-concept. Occupations, 1951, 30, 88-92.

Super, D.E. A theory of vocational development. American Psychologist, 1953, 8, 185-190.

Super, D.E. The psychology of careers. New York: Harper & Row, 1957.

Super, D.E. The structure of work values in relation to status, achievement, interest and adjustment. Journal of Applied Psychology, 1962, 46, 234-239.

Super, D.E. Self-concepts in vocational development. In Super, D.E., Starishevsky, R., Matlin, N., and Jordaan, J.P. Career development: Self-concept theory. New York: College Entrance Examination Board, 1963.

Super, D.E. Manual, Work Values Inventory. Boston: Houghton Mifflin, 1970.

Super, D.E., Crites, J.O., Hummel, R.C., Moser, H.P., Overstreet, P.L., & Warnath, C.F. Vocational development: A framework for research. New York: Bureau of Research, Teacher's College, Columbia University, 1957.

Super, D.E., & Overstreet, P.L. The vocational maturity of ninth grade boys. New York: Teacher's College, Bureau of Publications, 1960.

Thomas, H.B. The effects of social position, race, and sex on work values of ninth grade students. Journal of Vocational Behavior, 1974, 4, 357-364.

Thomas, J.D. Effectiveness of a group counseling procedure in changing work values of college students. Unpublished doctoral dissertation, Texas A & M University, 1973.

Tiedeman, D.V. Comment on self-estimate ability in adolescence. Journal of Counseling Psychology, 1973, 20(4), 303-305.

Tierney, R.J., & Herman, A. Self-estimate ability in adolescence. Journal of Counseling Psychology, 1973, 20(4), 298-302.

Tisdale, J.R. Psychological value theory and research. Unpublished doctoral dissertation, Boston University, 1961.

Trufant, J.E., Kelly, S.J., and Snyder, F.A. A profile of first-time students at Virginia Community Colleges, 1973-1974. Richmond, Virginia: Department of Community Colleges, 1975.

Underhill, R. Values and post-college career change. American Journal of Sociology, 1966, 72(2), 163-172.

Underwood, K.L. Work values of university entrants. Journal of College Student Personnel, 1971, 2(6), 455-459.

Villwock, J.D. Holland's personality concepts as predictors of stability of choice. Unpublished doctoral dissertation, University of Houston, 1975.

Vroom, V.H. Work and motivation. New York: Wiley, 1964.

Wagman, M. Sex and age differences in occupational values. Personnel and Guidance Journal, 1965, 44(3), 258-262.

Wakefield, J.A., & Doughtie, E.B. The geometric relationship between Holland's personality typology and the Vocational Preference Inventory. Journal of Counseling Psychology, 1973, 20(6), 513-518.

Wall, H.W., Osipow, S.H., & Ashby, J.D. SVIB score, occupational choices and Holland's personality types. Vocational Guidance Quarterly, 1967, 15, 201-205.

Walsh, W.B., & Lewis, R.O. Consistent, inconsistent and undecided career preferences and personality. Journal of Vocational Behavior, 1972, 2, 309-316.

Walsh, W.B., & Osipow, S.H. Career preferences, self-concept, and vocational maturity. Ohio State University: Research in Higher Education, 1973.

Weiss, D.J., Davis, R.V., England, B.W., & Lofquist, L.H. Construct validation studies of the Minnesota importance questionnaire. Minnesota Studies in Vocational Rehabilitation, XVII. Minneapolis: The Industrial Relations Center, University of Minnesota, 1964.

Williams, C.M. Occupational choice of male graduate students as related to values and personality: A test of Holland's theory. Journal of Vocational Behavior, 1972, 2, 39-46.

Wilson, W.C. Value differences between public and private school graduates. Journal of Educational Psychology, 1959, 50, 213-218.

Woodbury, R.W. Sex differences, parental occupational level, and intelligence as measured by Super's WVI on 379 southern rural, caucasian, protestant ninth graders of North Carolina. Unpublished master's thesis, North Carolina State University, 1966.

Zaccaria, L., Jacobs, U., Creaser, J., & Klehr, H. Work values of college-bound youth. Psychological Reports, 1972, 31, 567-569.

Zytowski, Donald G. The concept of work values. Vocational Guidance Quarterly, 1970, 3, 176-185.

Vita

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Born in Kittanning, Pennsylvania on April 6, 1944. Employed since 1972 as an Associate Professor and Director of Career Planning and Placement at Thomas Nelson Community College in Hampton, Virginia. Previous work experience includes employment as a counselor with the U.S. Army's Transition Program at Fort Eustis, Virginia for a period of two years and as U.S. Army Officer for three years. Associated experience includes serving as an Adjunct Professor with the Graduate Schools of Education at Hampton Institute, Hampton, Virginia and The College of William and Mary, Williamsburg, Virginia, and as Consultant for In-Service Counselor Training at the Peninsula Office of Manpower Programs, Hampton, Virginia and the Virginia Employment Commission (Peninsula). Received the Bachelor of Art degree in Psychology from Grove City College, Grove City, Pennsylvania in 1966. Study for the Master of Art in Education, Advanced Certificate of Graduate Study and the Doctor of Education degrees were done at the College of William and Mary, Williamsburg, Virginia and completed 1970, 1973, and 1976, respectively. Active in professional societies and organizations including charter membership in the College of William and Mary's Phi Delta Kappa (Educational National Honor Society) Chapter. Married to Irene R. Young and have one son, Gregory Glenn, age four.